

- I. DEPARTMENT TQM'S
- II. C&I USE:
 - A. All Departments
 - B. SIT
 - C. QC
 - D. AQP Time-line
 - E. Engineering Project Status
 - F. Work Plans
- III. EQUIPMENT STANDARDS
- IV. SYSTEM PARETO'S
- V. DEPARTMENT SPC SYSTEMS
 - A. Pyramid
 - B. List of Systems
 - C. Flow Diagrams - (& Quality Plans)
 - D. Off-Line Measures
- VI. DEPARTMENT IMPLEMENTATION
 - A. Blocks & Bubbles - DMT Diagram
 - B. MOE's
 - C. Time-lines
 - 1. P.H. Equipment Standards
 - 2. SP/Blending Equipment Standards
 - 3. RL SPC System Revisit
- VII. JOB RESPONSIBILITIES
 - A. All Positions
 - B. Competency Model

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VIII. DEFINITION OF DMT

- A. Agenda
- B. Department Leadership
- C. Major Functions
- D. Squiggly Line Chart

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IX. PHILOSOPHY

- A. DMT
- B. Department
- C. Principles

X. DMT ROLES & RESPONSIBILITIES

- A. Membership
- B. Assumptions
- C. Roles Regarding DI

XI. DEPARTMENT PRODUCTS

- A. Product Priority Matrix

XII. COMMUNICATION SYSTEM

XIII. MINORITY BUSINESS DEVELOPMENT PLAN

- A. Affirmative Action Activities
- B. Key Performers

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APPENDIX

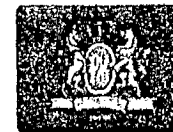
- I. TQM SYSTEM TRAINING
- II. C&I PLAN SYSTEM TRAINING
- III. COST OF QUALITY

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Q500 MASTER QUALITY PLAN



MANUFACTURING SPC SYSTEMS

OOO
Audits
(P. V. Jamison)

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| | | | | |
|---|--|--|---|--|
| Train Site Coord. in OOC Audit Methodology/ Statistical Techniques 1/94 | Develop OOO Audit System 2/94 | Develop Proposed Pilot Efforts For a Specific Finished Prod. Characteristic 3/94 | Train Lab Services, DMT & Production Personnel in Principles Decision Process. Logistics and Use of OOC Audit(s) 4, 5/94 | Implement by Line Until All 3 Lines Are Using 6/94 |
|---|--|--|---|--|

RL Process
Equipment Standards
(G. L. McConnell)

| | |
|--|---|
| Review Proposal and Reconcile Differences 7/93 | Develop and Conduct Training About Equip. Standards 8/93 |
|--|---|

| | | | |
|---|---|------|------|
| Implement & Debug Equipment Standards Component (Packing/Machine Room) 12/93 | Develop Standards for Stock Prep and Blending Areas 3/94 | 4/94 | 8/94 |
|---|---|------|------|

DEPARTMENTAL IMPLEMENTATION

Power House
(P. V. Jamison)

| | | |
|---|--|------|
| Phase II Orientation & Select Prod. Req. Core Team Improv. Approach 12/93 | Implement SPC System(s), Debug, & Refine as Needed 1/94 | 9/94 |
|---|--|------|

Power House
Equipment Standards
(G. L. McConnell)

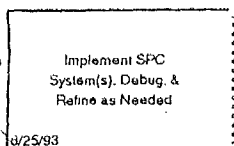
| | |
|--|------|
| Begin Development of Equipment Standards 4/94 | 7/94 |
|--|------|

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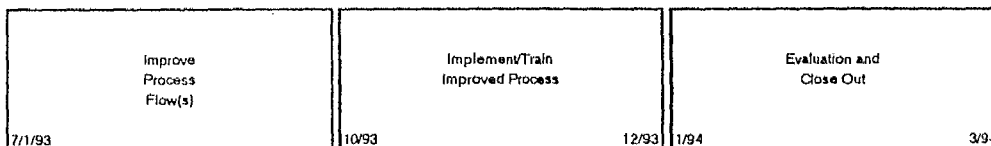
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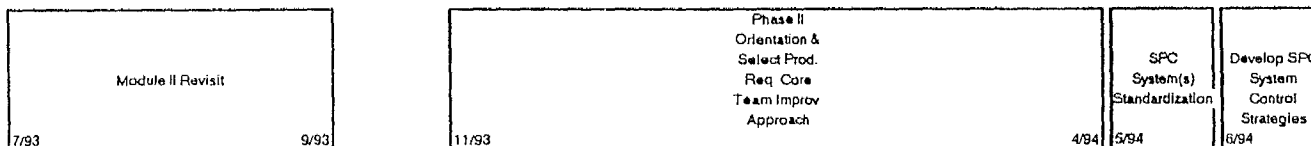
Human Resource Operations
(C. S. Martin)



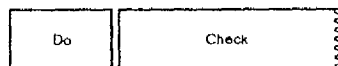
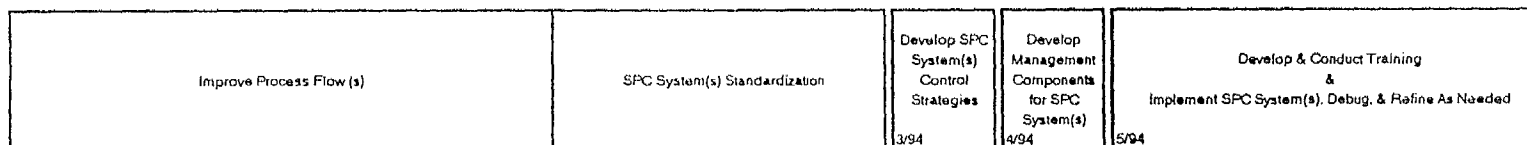
Training
(C. U. Spellmeyer)



Quality Services
(C. U. Spellmeyer)

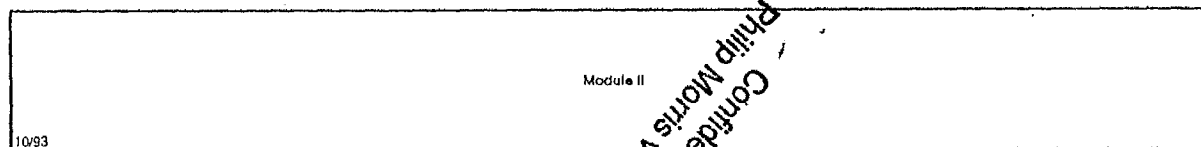


Operation Services
(C. U. Spellmeyer)



NOTE: ACT (Full implementation next budget revision)
7/1/94 - 10/94.

Environmental Services
(C. U. Spellmeyer)

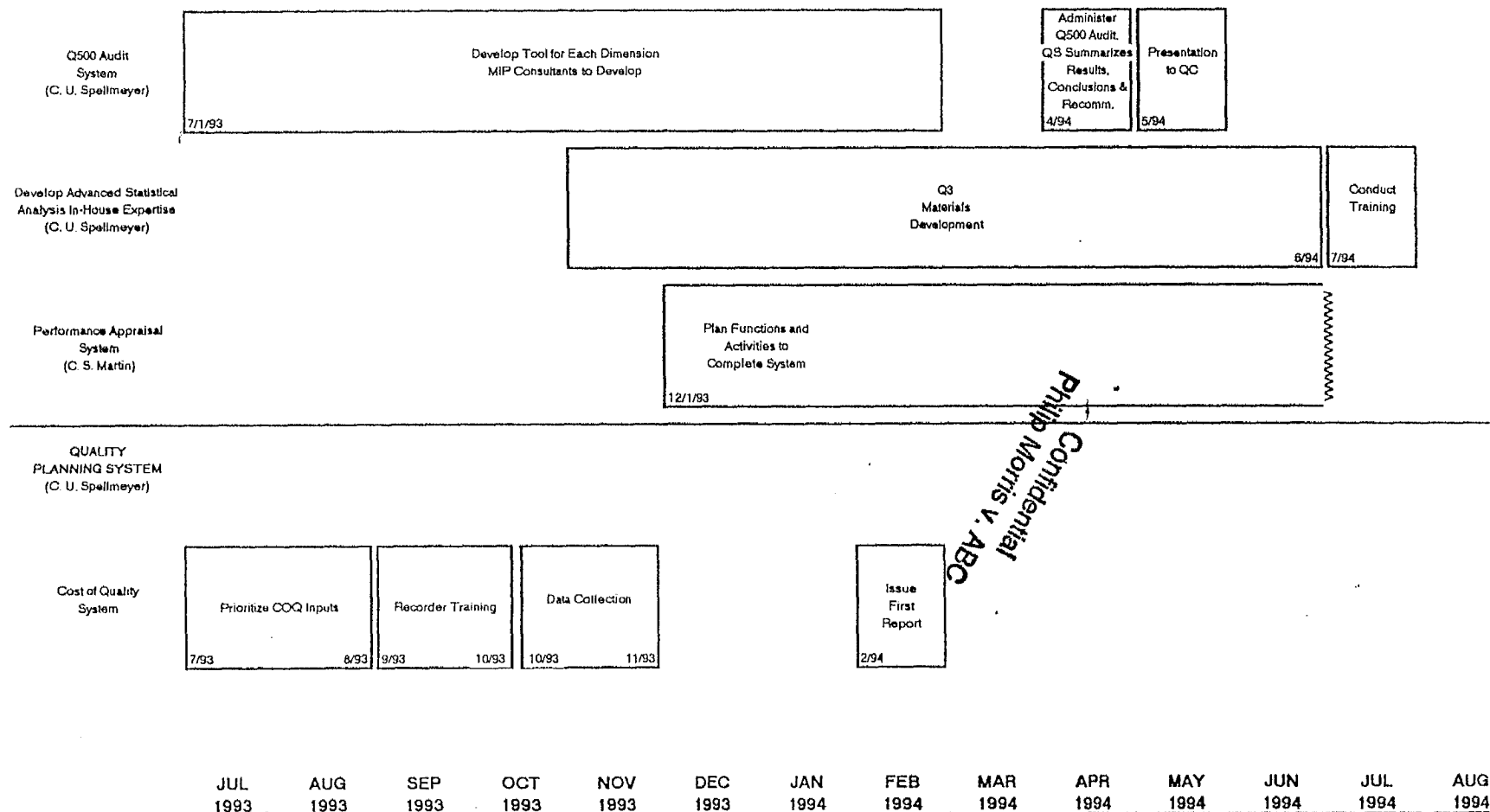


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| JUL 1993 | AUG 1993 | SEP 1993 | OCT 1993 | NOV 1993 | DEC 1993 | JAN 1994 | FEB 1994 | MAR 1994 | APR 1994 | MAY 1994 | JUN 1994 | JUL 1994 | AUG 1994 |
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SYSTEM AND
PROCESS IMPROVEMENT
METHODS



SUPPLIER
SYSTEM
(C. U. Spellmeyer)

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External
Suppliers

Implement Data Management Systems

4/94

Finalize
Recognition
System

94

Certify SC's

3/94

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Suppliers

Plan Activities

1/94

CUSTOMER
SYSTEM
(C U. Spellmeyer)

Primary Processing
Domestic and Export

Restart Customer Line

1/94

External
Customers

Plan Activities to Engage R&D
for Evaluation of RL Product

3/94

JUL
1993

AUG
1993

SEP
1993

OCT
1993

NOV
1993

DEC
1993

JAN
1994

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C&I Use

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M&E DMT WORK PLAN

W. H. Bailey

| Start Date | Problem (Focus Area) | Evidence | Improvement Opportunities | Team Members | End Date | Status |
|------------|---|---|--|---|----------|---|
| 11/93 | L-3 Yankee Hood Fan high failure rate. | Bearing failure rate. | Reduce costs of rebuilds. Reduced downtime. Reduced hood fan off-standard. | S. Joyner J. Lusk V. Loving Air Tech | | Installing cont. monitoring equipment to collect operation data. |
| 8/93 | Wiegand fan vibration and building vibration. | Wiegand fan data. Current operating speed. | Improved evaporation variability. Reduced energy costs. | J. Lusk Vibralign J. Deck | | Modifying welds on fan base. Data collection complete. Engineering firm to check building design. |
| 10/93 | Pulper Discharge Pump life is too short. | Average rotor life less than 5 days. | Reduced Maintenance costs. Reduced downtime. | Parker | | Test rotors received. Test plan issued. |
| 2/94 | Control of B-100 Assets. | | Prevent loss of assets. | | | Disposing of lab, maintenance, and office equipment. |
| 2/94 | Contract coordination for standing contracts. | | Control spending. | V. Loving L. Maddra J. Deck A. Timpano J. Lusk S. Joyner | | All in budget. |
| 2/94 | Insurance regulatory inspections | Regular inspections and reports. | Keep inspections current and all reports answered. | J. Lusk J. Deck | | All reports answered and inspections up-to-date. |
| 4/94 | R&D Project | | Improve Park 500 business. | F. McFee M. Smith | | Test set up and equipment being installed. |
| 4/94 | Audit Pad Team - Project Team Work | Project Team System | Project Team Work | Pad Team | 6/94 | Training and material review. |

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4/22/94

M&E DMT WORK PLAN

W. H. Bailey

| Start Date | Problem (Focus Area) | Evidence | Improvement Opportunities | Team Members | End Date | Status |
|------------|-------------------------------------|---------------------------------------|-----------------------------------|--|----------|--|
| 10/93 | Liquor (SEL) cleanup, Line I | Solids in SEL. Centrifuge Rejects. | Improve yield. Reduce cost. | | | Screen installed. Tilley transferred. Picking new member. |
| 8/93 | Capacity Increase Lines II & III | Production needs. | Reduced costs. | Annamanthadoo Process Eng. Production M&E | | One test run. 2nd test after R&D Project. |
| 4/94 | String Up Team | Safety | Safety yield. | M. Harper | | Data and vendor information collection started. |
| 3/94 | FDA and legal tours | | | | | |
| 2/94 | M&E Budgets | | Budget control. | E. Herald | | Monthly review. |
| 6/93 | Sand Team | | * Resource for the Sand Team | | | Installing Line II Equipment. |
| 1/94 | Line III Yankee Bearing | Vibration | Reduce costs. Reduce downtime. | S. Joyner J. Lusk | 7/94 | Bearing cleaned. Inspected by Mfg. & Maint. Monitor and recheck in July. |
| | | | | | | |

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4/22/94

M&E DMT WORK PLAN

E. L. Hargress

| Start Date | Problem (Focus Area) | Evidence | Improvement Opportunities | Team Members | End Date | Status |
|------------|--|---|--|---|----------|--|
| 4/24/94 | Power House - Equipment Standards | No equipment standards | Reduction in downtime. | Hargress Ganoe Hickman E/I (1) Mechanic (1) Operator | 6/30/94 | Awaiting completion of Operating Standards. |
| 4/17/94 | Shutdown Planning System not followed or understood. | <ul style="list-style-type: none"> * Too many jobs scheduled for shutdown. * Jobs not prioritized. * Unclear expectations. | <ul style="list-style-type: none"> * Most important jobs are identified. * Agreement on expectations between Maintenance and Production. | Hargress Maddra Edwards Whitlow Area Coord. | | |
| 3/1/94 | Planning - System Procedural Document | <ul style="list-style-type: none"> * Coordinator unclear of responsibilities. * Duplication of job orders in system. | <ul style="list-style-type: none"> * Reduction in backlog of work orders. * Training tool for Planners. | Edwards Maddra Ray Wontz Whitlow Welch | | Weekly meetings held. Completed definition of Principles for Planning. |
| 3/12/94 | Power House - Reporting, alignment of craft personnel. | | | Hargress Hill Murphy | 6/30/94 | Initial meeting scheduled 3/12/94. |
| | | | | | | |

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M&E DMT WORK PLAN

Murphy

| Start Date | Problem (Focus Area) | Evidence | Improvement Opportunities | Team Members | End Date | Status |
|------------|---|---------------|---|---|----------|---|
| 1/94 | CONTRACTOR ACCESS system | | Due to the increase in "in house" craft projects A system to | L. Murphy B. Bailey | 5/1/94 | The propyl/pushen project is a test project. A new Contractor Access form |
| 1/94 | Production/Maintenance Team | Time out DATA | <ul style="list-style-type: none"> • Synergy • Efficient Utilization of Resources | B. Vickers L. Thomas D. Jenkins L. Maddox R. Basswell C. Claiborne | 5/94 | |
| 4/94 | Equipment Standards Implementation Stock Prep/ Blenders | AQP Activity | improved equipment monitoring | L. Murphy D. Corfield L. Murphy | 7/94 | I.D. and Team Formation |
| | | | | | | |
| | | | | | | |
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MAINTENANCE AND ENGINEERING DMT WORK PLAN

Print date: 5/10/94

| Start Date | Problem (Focus Area) | Evidence | Improvement Opportunities | Team Members | End Date | Status |
|------------|--|---|---|---|-----------------|----------------|
| 4/4/94 | The size supply and return pumps (M.R.) are unreliable and under capacity. | -Line III return pumps run 100% speed. -Line I/II Reeves drive stay broken | Upgrade existing pump drives to improve performance and reduce mechanical failure. | D. Barfield M. Smith R. Harris | 6/1/94 | Active |
| 4/25/94 | M&E Department manual needs revised. | Many items are not real, not usable. | Create a "user friendly" manual for M&E DMT that is realistic in scope. | D. Barfield G. McConnell | 6/1/94 | Just beginning |
| 1/27/94 | Many problems exist plant-wide on TQ with no common focus. | Many "technical" differences between departments on TQ applications. | Work with other SPC/TQI personnel on dept/plant-wide TQ problems. | A. Hayes D. Barfield A. Tudor D. Ganoie P. Werkmeister V. Bell D. Mertz | Monthly Meeting | Continuous |
| 2/14/94 | Oversee and administer data and actions on the Equipment Standards System | No one is watching on a continuous basis. | Work the system so people can see improvement and believe the ESS is necessary/working. | D. Barfield D. Jenkins L. Murphy | | Continuous |
| 1/1/94 | Oversee and administer the Department TQM system. | Data collection and tabulation falls in the "cracks." | Department is provided the data needed to identify problems and opportunities. | D. Barfield | Monthly | Continuous |
| 1/1/94 | Provide oversight/ administrator to dept. on Permac. | Role left vacant after MMH left the plant. | Continue to provide technical and leadership support to plant on Permac. | D. Barfield B. Whitlow | Weekly | Continuous |
| 1/1/94 | Develop "Focus" programs to retrieve data from Permac. | Data and information is difficult to retrieve from Permac. | Continue to provide M&E DMT data from our W. O. management process. | D. Barfield | Weekly | Continuous |

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MANAGER: G. L. McConnell
 AREA: MAINTENANCE AND ENGINEERING
 MAINTENANCE SERVICES

CONTROL & IMPROVEMENT PLAN

Page 1

| # | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | SUPT. TEAM LEADER | PDCA TIME LINE |
|------------------|------------|---|--|--|--|-----------------------|--|
| 10 2-ME-A | 8/92 | Existing equipment labels are not sufficient for protecting employees for lockout purposes on all equipment. Elec. documentation and lighting levels insufficient. | - Equip. labels don't match between field, panel and breakers. - Some MCC breakers don't have a label. - Two near miss accidents in past 12 months during lockout/equip. repair. Elec. Survey | Ensure proper protection of personnel by: 1. Identify and resolve all equip. labelling discrepancies for all non-production equipment circuits. 2. Identify and resolve all hard-wire circuit discrepancies. 3. Re-establish Plant Elec. documentation levels. TQM - Worklife (T.B.D.) | F. McFee V. Loving M. Smith D. Knoop S. Rozamus | B. Bailey F. McFee | Start 4/93 End 4/95 E/I work started 6/14/93 |
| 12 1-ME-B | 5/93 | Improved management of plant electrical usage is needed to reduce RL costs per lb. | Use of variable speed drives on selected process equipment has demonstrated potential energy savings. New rate schedules highly penalize peak demand periods. | Determine and implement short and long term solutions for reducing electrical energy consumption. TQM RL \$/lb. Energy \$/lb. Savings \$150,000 Comparing usage and demand. | J. Edwards M. Smith D. Mitchem G. Thompson V. Loving | M. Abel E. Stultz | P - 6/93 D - 5/94 C - 8/94 A - 4/95 |
| 14 2-ME-B | 9/93 | Process equipment repair scheduling does not occur in a timely manner resulting in poor utilization of dept. resources and overstagging of necessary repair parts. | - From 8/1 to 9/17/93 there was \$45,000 of P.T.M.'s staged but not used for scheduled w.o.'s - Lack of conformance to weekly Maint. schedule. * Avg. 7 w.o.'s added to schedule each week * Avg. 18 w.o.'s dropped from schedule each week | - Increase the scheduled w.o. completion rate to 80% Dept. TQM's % Planned W.O. Completed per schedule. Savings - \$200,000 | J. Wayda R. Harris J. Sharkey Resources Planning Group | D. Barfield | P - 10/1/93 D - 12/93 C - 3/94 A - 5/94 (Start 9/14) |

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 Rev: 5/31/94

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MANAGER: G. L. McConnell
 AREA: MAINTENANCE AND ENGINEERING
 MAINTENANCE SERVICES

CONTROL & IMPROVEMENT PLAN

Page 2

| # | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | SUPT. TEAM LEADER | PDCA TIME LINE |
|--------|------------|--|---|--|--|-------------------------|---|
| 27 | 3/94 | Park 500 is experiencing an unacceptable number of occurrences and total amount of downtime due to shower problems | 852 minutes of downtime 1/93 - 5/93 due to shower problems. | Reduce incidents and downtime due to shower problems by 50%. TQM - Downtime Pareto Savings - \$90,000 | <u>Resources</u> J. Eells E/I Mech. Sr. Oper. | L. Murphy T. J. Webb | Start: 4/94 Stop: 6/94 |
| 6-ME-E | 4/94 | Modify Stockroom SPC Systems for effective contractor use. | New contractor assumed Stockroom operations 1/1/94. | Review 100% of Stockroom processes to ensure proper utilization and efficiency. TQM - Std. Perf. Pareto | Contractor Supervisor | E. Herald | P - 5/94 D - 6/94 C - 8/94 A - 12/94 |
| 6-ME-F | 3/94 | Existing SPC Systems do not meet customer needs, minimize variation, or improve equipment performance. | <ul style="list-style-type: none"> - Packer PM process covers only that. - Ash Handling system covers 10% of PH equip. and operation. - Not all craft personnel are involved in the Dept. SPC Systems. | Modify existing Dept. SPC Systems to incorporate key dept. functions performed by the dept. | D. Barfield J. Eells R. Harris S. Joyner V. Loving S. Rozamus | B. Bailey | 3/94 - 6/94 |
| | 5/94 | Supervisors lack the necessary management skills and knowledge to effectively lead the department's hourly workforce. | Lack of enforcement of Company policies and rules. | Provide skills to properly and uniformly supervise the workforce. | J. Eells T. J. Webb | E. Hargress | |
| | 5/94 | We do not fully utilize the skills and expertise of craft personnel when solving problems resulting in missed opportunities to improve efficiency. | Craft personnel participation on C&I Teams. | Develop methodology for increasing hourly participation on day-to-day problem solving activities. | J. Bumgardner R. Pisa S. Mills S. Rozamus F. Welch | L. Murphy | |

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Rev: 5/31/94

**ENVIRONMENTAL & POWER HOUSE DMT
CONTROL & IMPROVEMENT PLAN**

REV. DATE: 4/12/94

| # | #/DATE STARTED | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | ACCOUNTABLE/ TEAM LEADER | ORIG. PDCA TIME LINE |
|--------------------|-------------------|--|--|---|--|-----------------------------|--|
| 10 4-ENPH-D | 9/91 | Too much variation in internal and external products in Power House. | Variation in processes and products that external customer (RL process) was not able to identify in Mod II. Core Team to examine internal sources. | Reduce variation to statistically acceptable levels through implementation of SPC. | Core Team.** | G. Hill/ D. Ganoë | DI Planning & Monitoring Summary Start- 1/31/94 End - 9/31/94 |
| 11 7-ENPH-A | 5/92 | NOX levels too high. | Present NOX emission from #2 and 3 exceed .38 #/mm BTU. NOX emissions from Boiler #1 is not known. | Meet Regulatory requirements: Boiler #2 & 3 - .38 #/mm BTU Boiler #1 - .25 #/mm BTU | P. Puglisi P. Pitts G. Banks D. Mitchem J. Pickelhaupt G. Hill, Sr. | L. McGee (T/L) | P - 1/31/93 D - 4/94 C - 4/94 A - 5/95* (On Schedule) |
| 13 | 4/1/93 | Verbal communication on operational issues at WWT/WT between middle mgmt. and shifts is inadequate, inappropriate and/or untimely. | - Procedural changes being misinterpreted. - Variation in doing same task between shifts. - Frustrated employees. | Reduce misinterpretation of procedural changes. Reduce variation between shifts due to communication. Improve compliance to Principles # 5 and 10. | G. Overstreet B. Lodge G. Barnes J. Schneider T. Nobinger | G. Hill | P - 4/1/93 D - On Hold C - A - |
| 16 | | Electrical generation at Power House is not maximized resulting in missed opportunities on reducing cost per pound. | Controls do not allow maximum electrical production from turbines due to quantity and type (pressure) steam being generated. | Increase electrical generation by 5% providing a cost benefit of 0.001/lb of RL produced. Impact on Cost per Pound TQM. | D. Mitchem General Electric (Resource) | G. Hill | P - 11/92 D - On Hold* C - A - *Pending NOX Requirements |
| 21 | 4/26/93 | WWT supervisors are not addressing operational decisions at lower mgmt. levels (Principle #7) and are forcing decisions to be made at higher levels of mgmt. | Lack of WWT supervisors: - On-line decision making - Direct supervision needed - Input/participation - Involvement in on-line lingering problems | Lowering the level of decision making/risk taking to the supervisor at WWT will allow for quicker responses to SPC System needs. Compliance issue to Principle #7. | G. Overstreet | G. Hill | Principles Team Start - 4/26/93 End - 12/94 |

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**Core Team: Don Mitchem, Bruce Honts, John Deck, Gary Hill, Hans Molver, Gary Hill, Supt., Dan Ganoë

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**ENVIRONMENTAL & POWER HOUSE DMT
CONTROL & IMPROVEMENT PLAN**

REV. DATE: 4/12/94

| # | #/DATE STARTED | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | ACCOUNTABLE/ TEAM LEADER | ORIG. PDCA TIME LINE |
|-------------------|-------------------|--|---|---|--|-----------------------------|---|
| 22 | 4/28/93 | WWT operators are not addressing operational decisions at lower mgmt. levels (Principle #7) and are forcing decisions to be made at higher levels of mgmt. | Lack of WWT operators: - On-line decision making - Direct supervision needed - Input/participation - Involvement in on-line lingering problems | Lowering the level of decision making/risk taking to the operators at WWT will allow for quicker responses to SPC System needs. Compliance issue to Principle #7. | G. Overstreet P. Wilson | G. Hill | Principles Team Start - 4/26/93 End - 12/94 |
| 24 | 8/16/93 | There is a great deal of fluctuation on MLSS testing resulting in an increasing amount of retests. | Env. Lab operating standard #9S3 has shown a 50 - 60% increase in off-std since 4/11/93 | Determine root cause for increase in retests. Reduce retests to 2 or less per week Impact to Env. Lab TQM standards performance. | G. Overstreet J. Deck | G. Overstreet | P - 8/16/93 D - 3/8/94 C - 5/94 A - 5/94 |
| 25 | 8/16/93 | Operation of Primary sludge pumps is producing undesirable off-standard performance results. | - % Time off-std, WWT operating std. # 3-7 through 3 - 13. - Reeves drive problems. | Develop alternative methods to Primary Sludge pump operations to provide higher press cake solids. Review results from "test" pump. Impact to WWT TQM by reducing percent time off-standard. Obj. to reduce by 50%. | J. Schneider (T/L) C Shift operators D. Gano B. Whitlow | G. Hill, Sr. | P - 8/16/93 D - 3/94 C - 5/94 A - 6/94 |
| 26 9-ENPH-A-94 | 2/1/94 | Reduce influent flow to Wastewater Treatment by 50,000 gals./day resulting in higher Wastewater Treatment chemical costs per 1000 gallons. | Potential for reduction in Wastewater Treatment costs by : - cleaning water from on-line meter from sample table, - evaluating frequency and duration of sludge blowdown. - leakage in waste valves. | Reduce WWT Chemical Cost Per gallons Effluent (TQM) Potential savings of \$18,000/day by reducing influent flow. 1993 cost to treat 1,000 gallons of effluent = \$0.36. | G. Barnes Confidential Philip Morris v. ABC | W.G.Overstreet | P - 2/1/94 D - 4/22/94 C - 6/22/94 A - 6/30/94 |

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SUPT: Thor.
AREA: Laboratory Services

CONTROL & IMPROVEMENT PLAN

Page 1

| # | TITLE | #/DATE STARTED | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | SUPT/ TEAM LEADER | ORIGINAL PDCA TIME LINE |
|---|---------------------------------|-------------------|--|--|---|---|----------------------|---|
| LS-30 4LSA | QB Calibration | 1/93 | QB Calibration OOC 27.1% in Off-line QB % OOC | - Pareto's of LS parameter performance - Off line measures (QB Calib % OOC/Line/Wk) | Reduce OOC's by 30% | C. Woodson O. Greer S. Coleman N. Griffin | T. Long | P- 2/94 D - 3/94 C - 6/94 A - 7/94 PDCA |
| LS 33 | AA Mini Maintenance | 11/93 | AA Mini maintenance reduces instrument availability AA Downtime TQM | AA is taken off-line each Friday for 1.5 hours to do Mini Maint. | Reduce AA Mini maint. time by 50% | | D. Lashbrooks | P-11/93 D-12/93 C-1/94 A-2/94 COMPLETE |
| LS-34 | Rotary Dryer Test | 1/3/94 | The Rotary Dryer has to be taken off line frequently possibly causing shifts in QB data. FSOV-TQM | Numerous SPC rule violations occur on samples which are pulled when the Rotary Dryer on-line status is changed. | Quantify any affect that changing the Rotary Dryer status has on QB calibration and process variability. | C. Crawford H. Johnson <u>Resource</u> B. Ford | H. Johnson | P - 1/94 D - 2/94 C - 3/94 A - 4/94 |
| LS-35 LS (100116 & 100125) | Backup Theobromine Method | 2/94 | Theobromine analysis is done on a single instrument with no backup available at Park. | - In Feb. LS had to take sample to BL Plant for analysis due to instrument being down. | Develop backup/alternate Theobromine Method at Park. | L. Craig | C. Woodson | P - 2/94 D - 3/94 C - 8/94 A - 10/94 |
| LS-38 (100126) | DAP/Urea Results | 3/94 | DAP/UREA results are the limiting factor in total delivery time. TQM SP Results Delivery Time | - Current delivery time has a CPK less than 1. - DAP/UREA run time is 15 min. vs 6 min. for KS and NO3. | Reduce DAP/UREA runtime by 20%. | R. Happel | T. Kollman | Complete by 8/94 Action Plan |
| LS-39 4LSB | HWS Data | 1/94 | HWS test is time consuming and highly variable. HWS % OOC | - FSS #16, 324 off stds. in 1st Q 1993 - 8 hours required to complete one test. - HWS % OOC - 30% | - 50% reduction in HWS delivery time. - 70% reduction in FSS 16. | T. Arnold C. Cobb | L. Craig | P - 2/94 D - 3/94 C - 8/94 A - 12/94 |
| LS-40 1LSA | Chlorine Feed System | 2/94 | Current chlorine feed systems require high maintenance and is prone to leaks. | - Observed leaks from the injector quill. - Annual maintenance and repair cost \$11,000 yr. (from Permac). | - Eliminate safety hazards. - Reduce maint. and repair cost by 75%. | T. Long | J. Lodge | Complete by 10/94 Principles Team |

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REV: 4/11/94

SUPT: Tho.
AREA: Laboratory Services

CONTROL & IMPROVEMENT PLAN

Page 2

| # | TITLE | #/DATE STARTED | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | SUPT/ TEAM LEADER | ORIGINAL PDCA TIME LINE |
|---------------|----------------------------------|---|---|--|---|--|----------------------|---|
| LS-41 6LSB | Sugars Analysis SPC System | 3/94 Began ahead of schedule | Improvement opportunities are limited due to the lack of an SPC System. | I-Factor for flavor batch results - 58. | Implement Sugars Analysis SPC System. | T. Smith W. McCallister D. Spriggs | D. Lashbrooks | P - 3/94 D - C - A - 12/94 SPC System |
| LS-42 6LSC | Theobromine SPC System | 1/94 | Improvement opportunities are limited due to the lack of an SPC System. | I-Factor for flavor batch results - 58. | Implement Theobromine Analysis SPC System. | | C. Milton | P -2/94 D - C - A - 6/94 SPC System |
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REV: 3/7/94 4/11/94

SUPT: Tho.
AREA: Laboratory Services

CONTROL & MAINTENANCE

Page 1

| # | TITLE | #/DATE STARTED | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | SUPT/ TEAM LEADER | ORIGINAL PDCA TIME LINE |
|--------------------|--|-----------------------|---|--|---|--|----------------------|--|
| LS-27 6-LSDMT-A | Salaried Performance | 12/92 | Salaried performance does not match total quality needs resulting in decisions being shifted to other levels of the organization. | -Lack of use of Q500 tools/techniques. -Lack of involvement on problem solving teams. | -Define barrier & eliminate them. -Allow for decision making and risk taking. | D. Lashbrooks O. McCutchen C. Milton | L. Thomas | P - 7/93 D - 8/93 C - 10/93 A - 12/31/93 Final training 4/21 |
| LS-28 | QB Hardware Calibration Control | Projected for 6/94 | No standard method to control QB hardware. Off-line QB % OOC | Hardware calibrations are only done when the data dictates, however no rules are documented and only the current data is used. | Develop a control strategy to maintain QB calibration. | | TBD | P - D - On Hold C - until A - completion of LS-30 |
| P-2 | T-4 Instrument & Micro Training | | T-4's require update training on instrumentation and as backups for Micro Tech. | T-4 survey showed that basic instrument skills needed updating. | Increase the technical competence of the T-4 and provide coverage for the Micro Tech. | | C. Milton L. Crag | P - D - C - A - 4/94 Action plan item |
| P-4 | Methods Revisions | 1/93 | Not all changes to methods or new methods are always updated in the methods manual. | Improper settings have been used. | Develop system to assure continuous updating of personnel and manuals. | | C. Milton | Action plan Ongoing thru 1993 Complete by 2/94 COMPLETE |
| P-7 | Extraction Solutions and Standards | | Current methods are not subject to routine review and updating. | No routine review schedule/system for review exists. | Develop system to assure methods comply with proper analytical procedures. | | TBD | TBD |
| P-8 | Standards Validation | | No current method exists to analytically verify all lab standards. | Standards are used without analytically verifying them first. | Develop method to analytically verify standards prior to use. | | TBD | TBD |
| EI-33 | HPLC Waters Calibration | 11/93 | Standard Calibration Curve does not use a mid-curve which represents amounts in urea batch | Lowest std. cal. curve value is higher than the actual value. | Provide a mid-curve standard that better represents amounts in the Urea batch. | T. Smith | D. Lashbrooks | P-12/93 A-2/94 |

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Page 2

| # | TITLE | #/DATE STARTED | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | SUPT/ TEAM LEADER | ORIGINAL PDCA TIME LINE |
|-------------------|-------------------------------------|-------------------|--|---|---|-----------------|----------------------|----------------------------|
| LS-36 (100106) | Cadmium Reduction AA Nitrates | TBD | Limited availability of reagents for AA Nitrate analysis. | Other proven techniques require fewer and more readily available reagents. | Investigate the feasibility of switching to Cadmium reduction for AA nitrate analysis. | | C. Milton | TBD |
| LS-37 (100111) | AA Replacement Pumps | 3/94 | Current dual speed pumps are obsolete. Parts for rebuilding are limited. | - Change rebuild vendor due to his lack of parts. - Utilizing single speed pumps, increasing run time on the AA. | Identify an alternate pump. | | T. Long | Complete by 6/94 |

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Rev: ~~07/94~~ 4/11/94

DRAFT

(ACTIVE)
PRODUCTION DEPARTMENT
CONTROL & IMPROVEMENT PLANDATE: 4/12/94
REVISED: 3/3/94

| # | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | TEAM LEADER/ (ACCOUNTABLE) | METHOD/TIME |
|--------------|------------|---|--|--|--|----------------------------|---|
| 24 2-PD-E | 3/2/92 | MANY ACTIVITIES REQUIRED TO CHANGE CONTINUOUS WET FELTS PLACES EMPLOYEES AT GREAT RISK OF INJURY. | WET FELT CHANGE PROCEDURE HISTORICAL PAPERMILL SAFETY DATA | -DECREASE THE NUMBER OF HIGH RISK ACTIVITIES REQUIRED TO CHANGE THE WET FELT -TQM'S: DOWNTIME, OPERATING EFFICIENCY, SAFETY 168,000 lbs/yr - #'s increase in Production | R. BRASWELL J. BROWN R. GARG M/R SUPVS (R) | A. V. A. | P- 1/94 D- 9/94 C- 10/94 A- 12/94 |
| 55 1-PD-C | 4/6/92 | THE TUBES OF THE WIEGAND EVAPORATOR ARE FOULED, RESULTING IN INEFFICIENT OPERATION. | . PARTICULATES IN SYSTEM . \$155,000/YEAR SPENT FOR MECHANICAL AND CHEMICAL CLEANING. | TO ENSURE CLEAN EVAPORATOR TUBES MAKING THE MOST EFFECTIVE USE OF TIME AND DOLLARS. \$100,000 TOTAL ANNUAL TQM: -COST PER POUND FOR RL -PLANT-WIDE PARTS/SUPPLIES -STEAM USAGE | D. CHAPMAN J. SHARKEY J. BARRINGTON | A.V.A D. DONAHER (TL) | P - 11/92 D - 12/93 C - 8/94 A - 12/94 PDCA |
| 77 6-PD-1 | 11/9/92 | SPC SYSTEM REPORT DOCUMENTATION HAS AN IMPROVEMENT FACTOR OF 50, RESULTING IN REDUCED CUSTOMER EFFECTIVENESS WHEN THIS PRODUCT IS USED. | . INEFFECTIVE USE OF TIME . DUPLICATION OF WORK . PROBLEM SOLVING EFFORTS N EFFECTIVE. . INCORRECT OR POOR DOCUMENTATION. . VIOLATION OF PRINCIPLE #5 . VIOLATION OF PRINCIPLE #7 | -IMPROVE TOTAL I-FACTOR BY 50% AND ENSURE CAPABILITY TO CONTINUOUSLY IMPROVE THE QUALITY OF THIS PRODUCT -WHAT DO WE WANT/NEED ON SYS. REPORT IF VARIATION IS PROBLEM THEN THIS IS CANDIDATE FOR SPC SYSTEM. | G. RANSONE J. CAMPBELL A. V. A. | D. JENKINS | COMPLETED DO TQFA 3/94 |
| 109 | 4/19/92 | YANKEE DRYERS HOOD SYSTEMS ARE NOT BEING OPERATED AS DESIGNED RESULTING IN DRYING PROBLEMS AND WASTE ENERGY. | YANKEE HOOD CLEARANCES AN ALIGNMENT, LOW HUMIDITY OF EXHAUST AIR, AIR LEAKAGE AROUND HOOD PERIPHERY, DAMPER CONTROL OPERATION PROBLEMS, STEAM AND CONDENSATE LEAKS. | PERFORM A SURVEY ON THE YANKEE DRYER HOOD SYSTEMS WITH THE ASSISTANCE OF AN OUTSIDE VENDOR AND IMPLEMENT AND MEASURE FEASIBLE IMPROVEMENT REVISIONS ONCE "BROKE NEEDS FIXING" ITEMS ARE COMPLETE. | R. GARG J. BROWN L. PULLANO | A.V.A. TO EVALUATE MTA | P - 10/92 D - 12/92 C - A - (BROKE NEEDS FIX CORRECTED) PDCA |
| 111 | 7/1/93 | STA-SIEVES ARE NOT EFFICIENT FIBER REMOVAL DEVICES. HYCOR IS AVAILABLE FOR USE. | STA-SIEVES ARE OBSERVED TO FREQUENTLY BLIND OVER SENDING LIQUOR TO STOCK CHEST. PREVIOUS TESTING BY RICHMOND ENGINEERING DEMONSTRATED THAT HYCOR CAN IMPROVE FIBER REMOVAL. | -UTILIZE HYCOR ROTOSHEAR TO IMPROVE FIBER REMOVAL FROM SEL PRIOR TO CENTRIFUGES. -(NEED DOCUMENTATION OF COST BENEFITS AND EVALUATE IMPROVEMENT OPPORTUNITY.) TQM'S: EFT SLUDGE CL LI - 1.11 LII - 1.05 LIII - 0.70 | J. TILLEY AREA RESOURCE MECH. ENG. TEST DESIGN RES. | A. V. A. | P - 7/93 D - 2/94 C - A - RECOMMENDATION IN 4/94 |

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(ACTIVE)
PRODUCTION DEPARTMENT
CONTROL & IMPROVEMENT PLANDATE: 4/12/94
REVISED: 3/3/94

| # | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | TEAM LEADER/ (ACCOUNTABLE) | METHOD/TIME |
|---------------|------------|--|--|---|--|----------------------------------|---|
| 112 | 9/1/93 | WE ARE CURRENTLY USING AN EXCESSIVE AMOUNT OF REFINER PLATES IN THE RL PROCESS RESULTING IN INCREASED COST/LB OF RL. | -1991 usage 606/1478,012 (0.0032/lb) -1992 usage 686/528,014 (0.0036/lb) -1993 usage 285/224,808 (0.0033/lb) through 8/93. | REDUCE REFINER PLATE USAGE BY 40% TQM - COST PER POUND SAVINGS \$200,000 | J. EVANS A. COON T. LITTLE R. GARG (R) LIII SP SUPV. (R) MAINT. (R) J. SIMPSON | G. RANSONE B. ESTES (TL) | P - 12/93 D - 3/94 C - A - Currently looking at a way to standardize method of operation. |
| 113 | 9/20/93 | COMMUNICATIONS FROM HOURLY TO HOURLY IS NOT HAPPENING ON A REGULAR BASIS, RESULTING IN THE SYSTEM, DOWNTIME, PERSONNEL CONFLICTS AND PRODUCT QUALITY PROBLEMS. | NON-CONFORMANCE TO PRINCIPLES #1, 2, 4&6 | ELIMINATE NON-CONFORMANCE TQM'S - DT'S, REJECTS, WORKLIFE ISSUES | L. HILL M/R HOURLY A. HAYES (R) K. MORING (TL) | C. HARTSELL | P - (AOH to train team by 3/15/94) PRINCIPLES |
| 114 1-PD-D | 9/1/93 | FELTWASHING IS NUMBER ONE CAUSE OF MACHINE DOWNTIME. | DOWNTIME PARETO (PLANT-WIDE TQM'S). | -REDUCE DOWNTIME ASSOCIATED WITH FELT CLEANING. -TQM - DOWNTIME (PLANTWIDE AND ALL 3 LINES); RL COST/POUND SAVINGS OPPORTUNITY \$781,916.00 | TBD | D. JENKINS | TBD (STUDYING DATA) P1-6 COMPLETE BY APRIL |
| 115 1-PD-E | 9/1/94 | INEFFICIENCIES, ERGONOMIC REDUNDANT ACTIVITIES AND WORKLIFE ISSUES ASSOCIATED WITH THE PACKING, HANDLING AND SHIPPING OF FINISHED PRODUCT. | TIME-OUT OBSERVATION & FEEDBACK; WORKLIFE ISSUES | REDUCE INEFFICIENCIES AND IMPROVE CONDITIONS ASSOCIATED WITH FINAL PRODUCT PACKING AND HANDLING. TQM AFFECTED: RL COST/POUND; REJECTS PARETO SAVINGS - \$212,592.00 | J. BROWN R. KNAPP R. SHELLEY I. MCLAUGHLIN S. CLARKE | D. JENKINS | AWAITING RESULTS OF STUDY |
| 116 1-PD-F | 3/1/94 | INEFFICIENCIES ON THE OPERATION OF THE SCRUBBER SYSTEM. | -OPERATOR REQUIREMENT FOR MONITORING SUMMARY. -CURRENT SCRUBBER FLOWS APPROX. 200,000 GPD. | REDUCE COST OF SCRUBBER SYSTEMS OPERATION. TQM - RL COST/LB., LABOR COST/LB. \$182,500 ANNUAL SAVINGS | J. BROWN ENV. ENG. (R) T. CHRISTY INSTR. ENGINEER MECH. ENGINEER G. JONES | D. JENKINS J. PICKELHAUP (TL) | TBD |

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PRODUCTION DEPARTMENT
CONTROL & IMPROVEMENT PLAN

DATE: 4/12/94
REVISED: 3/3/94

| # | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | TEAM LEADER/ (ACCOUNTABLE) | METHOD/TIME |
|---------------|------------|--|---|--|---|----------------------------|---|
| 117 8-PD-A | 1/1/94 | AN UNSATISFACTORY CUSTOMER/SUPPLIER RELATIONSHIP CURRENTLY EXISTS BETWEEN PROD AND MAINT RESULTING IN NON-CONFORMANCE TO PRINCIPLE #6. | TIMEOUT FEEDBACK. VITAL FEW TQM'S. | ELIMINATE NON-CONFORMANCE #6. | L. MURPHY E. HERALD L. MADDRA D. JENKINS C. CLAIBORNE L. THOMAS R. BRASWELL | B. VICKERS | PRINCIPLE TEAM COMPLETION DATE 4/94 |
| 118 2-PD-D | 2/1/94 | THE OPERATING AND MAINTENANCE COST OF THE BIRD CENTRIFUGES ON LINES I & II IS HIGH. | PERCENT SLUDGE REMOVAL UTILIZING 9 BIRD CENTRIFUGES VS. 7 IS NOT APPRECIABLE. | REDUCE THE NUMBER OF CENTRIFUGES IN OPERATION. TQM AFFECTED: RL COST/LB, REPAIR COST/LB. SAVINGS \$63,889/YEAR | S/P SUPERVISOR S/P #1 OPER. MAINT. MECH. PRC CTRL ENG. | A. V. A. | START 6/1/94 |

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OPERATIONS SERVICES CONTROL & IMPROVEMENT PLAN

4/19/94

| C&I #/ AQP # | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | ACCT. MGMT./ TEAM LEADER | END DATES |
|----------------------------|---------------|--|--|--|---|------------------------------|---|
| OS2 (AQP#: 6-OS-G) | 2/1/93 | TQM's are not consistently used to determine business needs resulting in opinions and other systems prioritizing work efforts. Result is we work from multiple systems. | QC requested that work to be done to improve plantwide TQM's & link to other TQM's. Cpk's not up to date and no complaints received. Comments made on the difficulty of using TQM's. | Increase AQP items driven by TQM' from 68% to 90%. Increase TQFA measure from 1993 revisit of 55 to 80. | C. Burke D. Lockhart B. Bailey | P. Werkmeister | P - 5/18 D - 3/22 C - 12/1/94 A - 12/31/94 |
| OS4 (AQP#: 6-OS-H) | 12/1/93 | There is a need to improve several of QS's work processes that are used in producing the TQM Report. Failure to do so will result in delays, negative worklife, mistakes and potential cost increases. | 1. Current workload consumes 91% of 2 data coord. being reduced to 1 data coord. 2. Spend \$30,000/yr BKP. This would increase w/ no improvement in process. 3. QS priority matrix, function 4 item. | 1. 0% deviation on exceeding 8 working days (exception cost data on delivering TQM's. 2. BKP costs are eliminated. 3. 1 data coord. headcount reduct. accomodated w/out adversely affecting worklife of remaining data coord. | C. Burke T. Hartman D. Lockhart | P. Werkmeister/ C. Rustin | 12/1/94 |
| OS6 | 4/1/93 | Park 500 is not utilizing the Employee Input System resulting in fewer improvement opportunities and less employee participation. | Lack of participation in the input system by all employees. No measure of effectiveness to monitor involvement in & level of contribution from the input system. | Improve the existing system in order to improve the products, processes and worklife at Park. | I. Eversol V. Bell L. Robertson A. Mitchel O. McCutchen Res.: Union/Leadership D. Nosal D. Mertz - Coach | V. Bell/ J. Barrington | P - 7/9/93 D - 8/5/93 C - 4/94 A - 12/94 |
| OS7 (AQP #: 5-OS-A) | 3/1/93 | The application of PDCA tools & methods are not practiced universally by all employees at Park resulting in too few PDCA problem solving efforts conducted. | Lack of completed PDCA documentation submitted for filing upon close out of problem solving efforts. Frequency that PDCA questions are asked of Total Quality Supts. and other PDCA resources. | Increase % of active C&I efforts using PDCA & related documentation to 80%, a 26% chg. in this measure of effectiveness. Increase % of PDCA teams that close out & meet their objective(s) to 80%, a 81% change in this measure of effectiveness. | J. Johnson B. Vickers B. Anderson | A. O. Hayes, CM | P - 5/18/93 D - 8/10/93 C - 9/17/93 A - 11/10/93 * On hold until OS7-A Completes Work |

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OPERATIONS SERVICES CONTROL & IMPROVEMENT PLAN

4/19/94

| C&I #/ AQP # | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | ACCT. MGMT./ TEAM LEADER | END DATES |
|-----------------------------|---------------|--|--|--|--|--|---|
| OS7-A | 1/94 | <p>Improve the understanding of P500 employees about various levels of application to the PDCA cycle & tools within their work process.</p> <p>Improve the structure of the PDCA Tools Kit so that it is more practical & "user friendly" with respect to various levels of PDCA applications.</p> | Time-Out Data | Develop process/procedures that will enable the various operational levels within the RL process to apply PDCA cycle and applicable tools for problem-solving. | J. Johnston B. Vickers B. Anderson H. Bortner J. Bennent | A. O. Hayes, CM (Accountable/ Team Leader) | 6/1/94 |
| OS14 | 4/20/93 | The current system for developing operating budgets is inadequate to provide a thorough and accurate analysis of cost center budgetary requirements resulting in loss in detail, inconsistent formats, redundant work and the potential for making bad business decisions. | <ol style="list-style-type: none"> 1. TQFA = 56 2. Several iteration of last year's budget 3. High level of overall frustration 4. Not being able to explain explain deviation in 93 OB 5. Last year's budget was late by 8 days 6. Cost center accountable Supt. was not familiar with all details of budget 7. Betsy was asked for budget direction by Supts. 8. Roll ups didn't agree with detail sheets 9. Risk assessments were not done in initial budget preparation | Increase TQFA from 56 to 80. | B. Hatcher D. Rocky Res: C. Burke | E. Herald | <p>P - 5/4/93 D - 7/20/93 C - 6/94 A - 10/15/94</p> <p>Test run before next budget process.</p> |
| OS15 (AQP #: 2-OS-C) | 3/1/93 | Improper operation of process equipment results in unnecessary failures, reduced production capabilities and downtime. | \$68K in mechanical seals lost due to improper operation. | Train operations personnel on preventive operations. | S. Willingham W. Wheeler A. Moore L. Pullano R. Harris | B. Vickers (Accountable) B. Hamby (TL) | <p>P - 4/19/94 D - C - A - 6/94</p> |

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1994 BUSINESS UNIT PLAN PROCESSING PLANTS

| Start Date | Problem (Focus Area) | Evidence | Objective | Team Members | Timeline | Status |
|----------------------|----------------------------------|---|---|---|---------------|--------|
| 1st Qtr. C&M | Work Life/Morale | | Administer quickly and accurately all hourly and salaried medical leaves. | B. Perry W. Evans | Ongoing | |
| 1st Qtr. C&M | Work Life/Morale | | Continue the transition to full utilization of Tesseract | B. Perry W. Evans | Ongoing | |
| 2nd Qtr. C&M | Work Life/Morale | | Support and administer all assignments related to work force realignment (communications, displacement, etc.) | C. Martin W. Evans M. Hughes L. Halle C. Henley | Ongoing | |
| 01/01/94 C&M | Work Life/Morale | | Provide scripts, data, and constructive feedback to help management with regular communication meetings. | C. Martin C. Henley L. Halle | Ongoing | |
| 03/94 C&M | Work Life/Morale | | Communicate new policies on contingent employment and outsourcing to plant management. | C. Martin C. Henley L. Halle | 1st Qtr. 1994 | |
| 03/94 - 06/94 C&M | Work Life/Morale | No hourly exposure to Diversity training (Harassment) | Explore expanding involvement to hourly work force (BL Plant). | C. Henley | 2nd Qtr. | |
| 04/94 C&M | Work Life/Morale | Lack of support and recognition for champions | Develop methods to increase support, involvement, and recognition for champions and senior management. | C. Martin C. Henley L. Halle | 2nd Qtr. | |
| 1st Qtr. C&M | Employee Selection & Development | | Identify high potential candidates for assessment, i.e., CLI, CLE, MMTP, LDP; utilizing Org. Review data. | C. Martin C. Henley L. Halle | 03/01/94 | |
| 1st Qtr. C&M | Employee Selection & Development | | Support participation in undergraduate and/or graduate programs consistent with business needs. | C. Martin W. Evans M. Hughes B. Perry | Ongoing | |
| 1st Qtr. C&M | Employee Selection & Development | | Research and identify specific resources for training on basic computer skills. | W. Evans M. Hughes | 04/01/94 | |
| 2nd Qtr. C&M | Employee Selection & Development | | Determine whether JFI process has application at Park 500. | L. Halle | 05/31/94 | |

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| Start Date | Problem (Focus Area) | Evidence | Objective | Team Members | Timeline | Status |
|-----------------|-------------------------------------|----------|--|---|-------------|--|
| 2nd Qtr. C&M | Employee Selection & Development | | Identify job pathing scenarios in Processing Plants for key performers identified in the Org. Review Process. | C. Martin C. Henley L. Halle | 06/30/94 | |
| 4th Qtr. C&M | Employee Selection & Development | | Facilitate 1994 Org. Review Process. | C. Martin C. Henley L. Halle | By 12/31/94 | |
| 03/94 C&M | Employee Selection & Development | | Provide Processing Plant management a complete Org. Review summary of superintendent and above positions | C. Martin C. Henley L. Halle | 03/94 | 011 ON A |
| 1st Qtr. C&M | Org. Development & Design | | Re-introduce Key Performer System to Park 500 QC and BL Plant QC | C. Martin L. Halle C. Henley | 03/31/94 | NEXT WEEK |
| 1st Qtr. C&M | Org. Development & Design | | Brainstorm and document learned experiences from 1993 application of realignment process. - Process itself - Administrative procedures | C. Martin L. Halle W. Evans C. Henley M. Hughes B. Perry | 03/31/94 | WEEK INITIAL BRAINSTORM COMPLETE |
| 2nd Qtr. C&M | Org. Development & Design | | Increase the effective utilization of the Recognition System (Park 500). - Revisit the system at the BL Plant | C. Martin L. Halle D. Nosal C. Henley | 05/31/94 | about right - |
| 09 01 94 C&M | Org. Development & Design | | Complete TQPA's and TQPA's on targeted products | C. Martin C. Henley M. Hughes L. Halle W. Evans B. Perry | 3rd Qtr. | |

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| Start Date | Problem (Focus Area) | Evidence | Objective | Team Members | Timeline | Status |
|-----------------|--|----------|---|--|--|---------------------|
| 1st Qtr. C&M | Performance Mgt., Measurement & Reward System | | Provide monthly absentee reports to operating management to assist in administering discipline consistently. | B. Perry | Ongoing | |
| 3rd Qtr. C&M | Performance Mgt., Measurement & Reward Systems | | <ul style="list-style-type: none"> Verify/Document that BR section incorporates MIP objectives. Gather data from user management to analyze and recommend updates to competencies Determine how to mesh Safety Competency Model into appraisal. | C. Henley L. Halle L. Halle C. Henley C. Martin J. Cumberland P. Jamison | 10/31/94 08/31/94 06/30/94 | |
| 1st Qtr. C&M | Federal / Legislative / Regulatory | | Prepare Affirmative Action Plan. | L. Halle B. Curtis C. Henley | 03/31/94 | Delayed due to VSP? |
| 1st Qtr. C&M | Federal / Legislative / Regulatory | | Investigate and prepare responses to EI OC charges and OLCOP complaints | L. Halle C. Henley | Ongoing | |
| 1st Qtr. C&M | Federal / Legislative / Regulatory | | Implement Family & Medical Leave Act for hourly work force. - Meet with union leadership - Publication of FML/DA/MLOA brochure | L. Halle W. Evans W. Evans | 1st Qtr. 2nd Qtr. | Completed |
| 1st Qtr. C&M | Work Force Flexibility | | <ul style="list-style-type: none"> Gain agreement from Park management and union leadership to proceed with interest-based bargaining. Begin training of management in the concept. Assemble focus groups and identify issues. Facilitate team process to resolve issues. | L. Halle | 1st Qtr. 1st Qtr. 2nd Qtr. 3rd Qtr. | DONE done |

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| Start Date | Problem (Focus Area) | Evidence | Objective | Team Members | Timeline | Status |
|-----------------|-------------------------|--|--|--|--|-------------------------------|
| 1st Qtr. C&M | Work Force Flexibility | | <ul style="list-style-type: none"> Develop methodology and gain local management approval to proceed with negotiation preparation. Facilitate operating management groups in identifying issues. Participate in local negotiations (both unions). | L. Halle | 1st Qtr. 1st & 3rd Qtrs. 3rd & 4th Qtrs. | DONE |
| 1st Qtr. C&M | Work Force Flexibility | Need for training in administering the labor contracts | Provide Labor Relations training to production and maintenance supervision in administering the labor contracts. | L. Halle | Ongoing | ✓ |
| 1st Qtr. C&M | Work Force Flexibility | | Verify and provide periodic Lodge #10 seniority listings to operating management. | L. Halle | Ongoing | DONE |
| 1st Qtr. C&M | Work Force Flexibility | | Foster a positive relationship with local union leadership. - Attend and participate in monthly union/mgt meetings. - Respond quickly to Ad hoc requests and complaints of union leadership. | L. Halle L. Halle | Ongoing Ongoing | |
| 1st Qtr. C&M | Work Force Flexibility | | Provide advice and counsel on disciplinary, grievance, or arbitration cases. - Coordinate and participate in grievance meetings. - Provide assistance to C/S Labor Relations with arbitration cases. - Maintain Grievance Tracking System. | L. Halle L. Halle L. Halle | Ongoing Ongoing Ongoing | ✓ in 1st |
| 01/01/94 C&I | Work Life/Morale | Work Life TQM's limited to safety | Develop key Work Life TQM's for Park 500 | C. Martin - TL P. Werkmeister C. Stariha L. Halle | Review TQM proposal 01/01/94; Develop measures 03/31/94; Test measures quarterly until 12/94 | Done 1st ones out in April |

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| Start Date | Problem (Focus Area) | Evidence | Objective | Team Members | Timeline | Status |
|-----------------|--|---|---|---|--|--------------|
| 1st Qtr. C&I | Employee Selection & Development | | Research and develop mentoring framework for Operations and a plan for implementation. - Identify candidates - Assign mentors - Implement | C. Martin J. Munson Gaines L. Halle C. Henley | 03/31/94 | |
| 02/94 C&I | Employee Selection & Development | Complaints about PMP | Brainstorm improvement ideas for the PMP/Org. Review Process with plant management. | C. Martin C. Henley L. Halle | 02/94 - start 03/94 - end | Completed |
| 03/94 C&I | Employee Selection & Development | | Brainstorm how to better capture, summarize, and report to management the cumulative PMP output (Flow diagram the process). | C. Martin W. Evans M. Hughes L. Halle C. Henley | 03/94 | |
| 01/01/94 C&I | Performance Mgt., Measurement & Reward Systems | | Complete check sheet PA format (BR section) for supervisors. | C. Martin | 1st Qtr. April 25 th end | IN PROGRESS |
| 01/01/94 C&I | Performance Mgt., Measurement & Reward System | TQI job responsibilities not in the PA. | Assign TQI responsibilities to the five blocks of PMP. | C. Henley | 03/31/94 | |
| 04/01/94 C&I | Performance Mgt., Measurement & Reward Systems | | Develop supervisor ladder for Processing Plants | C. Henley L. Halle S. Gallaher | 2nd Qtr. | |
| 2nd Qtr. C&I | Merge TQI Systems & Succession Planning | | Improve development of personnel to meet future needs of the company - consolidate Succession Planning, Key Performer System, Mentoring, and Development Planning | C. Martin C. Henley L. Halle | 05/31/94 ³¹ Mentoring - 03/01/94 Key Performer - 03/10/94 Succession Plan - 04/01/94 Dev. Plan Audit - 05/31/94 | on schedule. |

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April 15th
! Succ. in Plans

C&I = Control & Improvement
C&M = Control & Maintenance

2030283967

**RL PROCESS SYSTEMS IMPROVEMENT TEAM
CONTROL & IMPROVEMENT PLAN**

Revision Date: 5/25/94

| NO | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | QC/SIT TEAM LEADER | END DATES | STATUS INFO |
|-----------------|------------|--|---|--|---|-------------------------------------|---|---|
| 28a | 4/90 | We frequently shut the RL process down to change doctor blades. | TQM - Downtime, Efficiency, Total Good Production | Install a continuous doctor blade (7,900 lbs per day). | V. Loving J. Brown | L. Murphy (SIT) R. Garg (TL) | LI - 10/93 LII - 10/93 LIII - Complete | On scheduled - to be completed by 7/94 |
| 37 1-617-A | 2/91 | KST, VST, usage deviations are unacceptable. | KST VST LI/II TQM CL 0.759 -0.471 LIII TQM CL -0.361 -0.29 TQM - Usage Deviation | Bring CL to within +/-1%, then change TQM to "O" CL. Potential \$540,000 Savings. | D. Ampey L. Jackson C. Claiborne D. Mertz (R) | W. Hayes (SIT) J. Ciliberto (TL) | P - 12/10/93 D - 1/31/94 C - 3/31/94 A - 4/15/94 | On schedule. Update SIT on 6/9/94 regarding real opportunity. |
| 42 | 5/12/91 | Some of the product which we ship to our customers may exceed the specification limit we have agree to meet. | Product solubles P-charts for predicted out of specification. P-Bar UCLp LI 0.56 2.76 LII 0.71 3.18 LIII 1.45 4.36 | Reduce product solubles variation so that 1) predicted product out of spec for percent solubles is consistently < 1.0% (UCLp) and 2) within week standard deviation of solubles measurements is consistently < 1.0% sol. (UCLs). | C. Burke J. Dillon C. Milton J. Johnston P. Werkmeister (R) | D. Jenkins (SIT/TL) | P - 1/94 D - 4/94 C - 5/94 A - 6/94 Note: Recycle through PDCA. | Pre PDCA investigation by 6/1/1994 |
| 44 1-617-B | 11/91 | Excessive sand in the stock chest to the headbox causes machine downtime and limits machine speed. | -Sheet breaks caused by sand streaks. -Sand build up in headbox, SBW tank, couch pit. -SBW cleaner pluggage. TQM - Downtime | Reduce LI machine downtime due to sand occurrences by 95%. Potential \$70,000/yr savings. | J. Lusk L. Pullano V. Loving (R) J. Deck (R) | A.V.A. (SIT) R. Garg (TL) | P - 8/92 D - 5/93 LI LII C 5/94 11/94 A 6/94 12/94 | LI Complete. MOE to SIT 6/1 LII on target |
| 54 4-PRO-J-A | 8/19/92 | The current variation of stock consistency to the Primary refiners is too great, resulting in variation of refined stock that is greater than desired by Park 500. | Previous problem solving teams and operator expertise have identified that the variation consistency has the greatest impact on inconsistent refining. They have also identified that the greatest variation in consistency occurs before the Primary refiners in Stock Prep. | Reduce the amount of variation in Stock Consistency to the Machine Chest by 50% (as measured by Lab Consistency Test) Currently: 1 Sigma = .22 Objective: 1 Sigma = .11 Objective agreed to is for L-3 only. TQM impacted: base web wt variability and finished sheet ov variability. Potential \$20,000/year savings. | R. Garg J. Simpson K. Moring D. Mortz F. McFee B. Shope | AVA (SIT) A. Tudor (TL) | Final phase of installation 4/94. Close out June, 1994. | MOE being developed. Report back to SIT 6/16/94 |

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2030283968

RL PROCESS SYSTEMS IMPROVEMENT TEAM
CONTROL & IMPROVEMENT PLAN

Revision Date: 5/25/94

| NO | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | QC/SIT TEAM LEADER | END DATES | STATUS INFO |
|----------------|------------|---|--|--|---|-----------------------------------|---|--|
| 55 | 12/9/92 | The RL process SPC System does not provide for control to the new Tobacco Product Standards specs for RLB and RLBT Export product which specifies total humectant level (PG & Gly) not to exceed 5.00%. This can result in an increase of out-of-spec export product. | <ul style="list-style-type: none"> - Using existing specifications, up to 5.50% total humectants can be produced as export product and considered to be within specifications. - Existing control schemes are designed to control PG and Glycerine parameters individually yielding product CPK's of 1.2 & 0.95 for PG and Gly respectively. - Historical data for total humectant export concentrations indicate an average of 2.53% predicted out-of-specification. - Historical data indicates that 10 product audits out of 445 exceeded the 5% total humectant spec. This equates to 2.25%. | To reduce the average predicted % out-of-spec to 0.50. This represents 80% reduction from current level. | T. Kollman D. Hunter R. Nicholson A. Tudor (R) | L. Thomas (SIT) | End Date - 5/94 | Activities completed. Post MOE due 7/20/94 then close out will be completed. |
| 58 3-SIT-F | 5/1/93 | Cost per lb of Dap, Urea, PG and Gly are unacceptable resulting in a higher RL cost per lb. | Composit cost/lb for PG & Gly is \$.021 and remains constant (annual cost is \$2.9 m - cost/lb all additives = \$.06 TQM - Cost/lb | Reduce the usage of PG and Glycerine by 5% without affecting finished sheet quality characteristics. Potential Cost Savings \$125,000 LHT talking with J. Swain & Dr. Cox. | C. Burke R. Nicholson D. Hunter | L.H. Thomas K. Charles - TL | Completion 10/94 | Subjective testing started at R&D; waiting on results. Copy Action Plan to SIT |
| 60 3-PROJ-A | 6/23/93 | We are unable to determine what/when different raw material components are introduced into the RL process, resulting in an ability to define raw material impacts to process variation. | <ul style="list-style-type: none"> -Numerous C&I efforts have stalled due to inability to investigate raw material related causes. -Regulatory requirements | Identify what and when various raw material components are introduced into the RL Process. Potential Cost Savings \$-4,000 Regulatory requirement. | S. Scott D. Ampey B. Giovenco J. Ciliberto C. Claiborne | J. Campbell (SIT) D. Hall (TL) | End Date 10/94 | Job Order being circulated. |
| 65 4-SIT-A | 3/1/93 | Important RL process equipment characteristics are not consistently established as a standard way of managing our business. | <ul style="list-style-type: none"> -Recurring breakdowns of important RL process equip. -May 1992, 12 mo. avg., 30% downtime is for equip. maint. -Equipment standards not in place as part of the RL SPC System TQM - Downtime | Identify and implement a system to maintain RL process equipment standards. MQP directed item. | J. Simpson D. Ampey C. Fleming D. Barfield | L. Murphy (TL) | Start - 4/94 End - 7/94 | On Schedule |
| 67 | 2/94 | There is not a clear understanding by all levels in the department what is the purpose of each of the components in the RL SPC Sys. | <ul style="list-style-type: none"> -Timeout results. -OOC's -Off Standards not being properly recorded | Ensure there is a clear understanding by all levels in the department on the purpose of each of the components in the RL SPC System. | A. Tudor D. Mertz J. Campbell G. Ransone | A.V.A. | P - 3/94 - Done D - 6/94 C - 11/94 A - 12/94 | "D" Changed from 5/94 to 6/94 |

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RL PROCESS SYSTEMS IMPROVEMENT TEAM
CONTROL & IMPROVEMENT PLAN

Revision Date: 5/25/94

| NO | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | QC/SIT TEAM LEADER | END DATES | STATUS INFO |
|----|------------|---|---|---|---|--|--|---|
| 68 | 2/94 | FCFC is not user friendly. | Timeout results. -Low number of FCFC's despite problems in SPC System. | Revise FCFC to make more user friendly and increase usage. | K. Charles D. Ganoe D. Barfield A. Tudor D. Mertz | W. Hayes (SIT) | Start 3/2/94 End - 5/94 | Activities completed. Close out report and post MOE due 9/94 |
| 69 | 4/94 | The tunnel dryer limits production capacity | Potential for reductions in water content of urea solution (based on urea solubility) and water added to prep batches. | Minimize the water content in size prep batches to reduce tunnel dryer loading and improve prod. capacity. TQM's affected: Energy Cost/Lb & RL Cost/Lb Potential Savings \$70,000/year | C. Woodson T. Ford D. Orms K. Mingloski | M. Abel (SIT) L. Pullano (TL) | P - 5/25/94 D - 8/25/94 C - 10/25/94 A - 12/10/94 | |
| 70 | | The product yield on Line III is unacceptably low resulting in higher RL cost per pound | Current yield on Line 3 is 82% Line I & II average yield is 88% Line III tobacco yield is 1.5% Lower than Lines II & III RL cost per pound Product yield | Improve Line III yield by 1.5% | J. Sharkey J. Brown | B. Bailey (SIT) P. Werkmeister (TL) | P - D - C - A - A - | Team just started meeting |

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2030283970

Print Date: 4/7/94

| QUALITY COUNCIL CONTROL & IMPROVEMENT PLAN | | | | | | | | | |
|---|----|------------|---|--|--|--|----------------------------------|--|---|
| | | START DATE | PROBLEM | EVIDENCE | SOLUTION | IMPLEMENTER | DATE | STATUS | REMARKS |
| QC | 1 | 1/2/93 | SPC Safety System has not been completed. | Lack of measurement systems. | Complete remaining 20-30% work needed to complete system. | D. Mertz (TL) J. Glass J. Brown C. Starlha V. Campbell J. Eells L. Alexander A. Tudor A. Timpano | C. Spellmeyer | | Sub-teams: MEOS- J. BROWN WOODCO P-7/93 P-11/93 D-11/93 D-12/93 C- 2/94 A-3/18/94 A- 8/94 INPUT: BARRINGTON P-7/93 Communica D-11/93 to all by C-1/94 2/1/94 A-7/94 |
| QC | 6 | | Current sheet production costs are above target levels specified in the Five-Year Plan and are trending upward. | -RL Tobacco cost increase yearly. | RL Configuration Projected savings \$3.1 mil | B. Bailey (TL) M. Abel (TL) D. Saunders J. Campbell L. Thomas (sub-team leader) | K. Kriva | Project Team | Cost estimates dt 2/94 On Schedule |
| QC | 7 | | Product received by the primaries results in process problems in primaries, pad return costs, and customer dissatisfaction. | -TQM - weekly % pad returns from MC = 0.2 to 1.8% pads -TQM - pads are the #1 customer complaint. | Reduce pads in RL product by 80% Projected savings \$0.3 mil. | B. Giovenco J. Sharkey R. Braswell/L. Pullano Prod. Supv. Hourly (2) Maintenance | G. McConnell/ D. Donaher (TL) | Project Team 6/1/94 | Recommendation NOV & Product distribution due 3/94 QC Update 4/14/94 |
| QC | 8 | | Our current TQM's do not encompass critical measures (audits) of plant performance, being outside the TQM system use of these audits undermine the TQM's | No TQM exist for safety audit, sanitation, MES, environmental. | Develop TQM's to measure continuous improvement in all areas audited; safety, sanitation, materials evaluation, environment. | P. Werkmeister Resources: Area Coord - Safety APP/JEL - San CWM - MES JP - Env. | C. Spellmeyer | To QC Safety - 4/94 San - 4/94 Env. - Pending level of audit MES - 4/94 | |
| QC | 9 | | Increase efforts and focus on quality of worklife. | Timeout data | Develop TQM's | C. Starlha P. Werkmeister | C. Martin | 3/1/94 | Complete |
| QC | 10 | | Negotiate labor contracts with both bargaining units that provide flexibility to meet the operational needs in 1995 and beyond -- resulting in a more economical operation. | Present method of performing tasks. | Identify and define non-traditional activities to provide greater flexibility in meeting operational needs in the future. Improve the working relationship between the two unions. | L. Halle G. L. McConnell P. V. Jamison J. E. Narron | J. Narron | 9/94 - BCT 12/94 - IAM | On Schedule |

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| QUALITY COUNCIL CONTROL & IMPROVEMENT PLAN | | | | | | | | | |
|---|----|------------|---|---|---|---|----------------------------|---|------------------------------|
| | | START DATE | PROBLEM | EVIDENCE | ANALYSIS | RESPONSIBLE | REVISED DATE | STATUS | |
| QC | 11 | 1/30/94 | Plant operational costs (labor, energy, rejects,) are excessive during plant start-ups and shutdowns. | -DN operational energy is \$200,000/year when equipment is not needed. -Reject levels at start-up can exceed 20,000 lbs. -Labor costs associated with non-production periods. | Develop a comprehensive shutdown and start-up strategy that allows the plant to idle non-needed equipment, return to standard/in-control status more rapidly, and better plan manpower needs. | Prod/Maint. Supv. Prod/Maint. Hlry Prod Supt. (TL) P/S Area Coord. Engineering (R) | P. Jamison | P - 2/94 D - C - 6/94 A - | On Schedule |
| QC | 14 | 1/1/94 | Plant 1993 recordable incident rate did not meet expectations. | 1993 recordable incident rate summary report | Identify areas of needed improvement and present to QC. | | M. Harper | 2/15/94 | Complete |
| QC | 15 | | Insufficient time available to supt. to spend on the floor to ensure plant and department success. | Time-out data | To identify and eliminate those barriers (changes we need to make) make change and secure a minimum of 10 hr. work for Supt. to be available to the workforce. | D. Jenkins M. Annamantadoo J. Campbell T. Bullock L. Murphy | P. Jamison G. McConnell | 1/4/94 - Start 2/15/94 - proposal to QC 5/94 - MOE's | On Schedule |
| QC | 16 | 1/30/94 | Maintenance and production depts. alignment do not support each other affecting plant performance. | -Planned maint. growth needs. -Problem-solving resources availability. -Prod. operational training needs. -Downtime reports | Create an alignment for both departments that reduces confusion, augments day-to-day needs and supports long-term operational strategies. | L. Murphy E. Herald L. Maddra D. Jenkins A. Annamantadoo L. Thomas J. Brown | P. Jamison G. McConnell | P - D - 2/28/94 C - 4/94 A - | Date Change Complete 4/94 |

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| QUALITY COUNCIL COMPLETED C&I ACTIVITIES | | | | | |
|---|------------|--|---------------------------|---|--|
| QC | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS |
| 12 | 1/7/94 | Poor use of C&I and C&M plans are hindering needed actions from happening. | 1993 C&I and action plans | Define and training QC, SIT and DMT's on proper use of C&I and C&M plans. Ensure proper use of plans. | P. Jamieson G. McConnell C. Spellmeyer |
| | | | | | J. Nanton " 1/30/94 |

revised date: history 2/1/94

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| QUALITY COUNCIL CONTROL & MAINTENANCE PLAN | | | | | | | | |
|---|------------|--|--|---|--|--------------------------------|---|---|
| # | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | TEAM LEADER (ACCOUNTABLE) | revised date: TIMELINE | STATUS |
| 1 | | Site-wide sanitation audits are not coordinated, resulting in performance losses. | # of reoccurring incidents # of total incidents. Lack of MOE's | Reduce # of recordings Reduce # of total incidents. Improve MOE's | D. Gance P. Puglisi J. Lodge G. Pate | P. Jamieson | Start - 3/94 | Implement - 3/94 Complete MOE - 4/94 |
| 3 | | Communication system is too cumbersome for effective use. | -Timeout data -Lack of use | Simplify communications system and make user friendly. | Hourly IAM/BCT Supv. Supt/Mgr D. Nosal (TL) | D. Nosal (TL) C. Spellmeyer | Start - 1/94 End 7/94 | |
| 4 | | Insufficient use and communication of Recognition System | -Timeout data -Lack of hourly use | Increase use and awareness of Recognition System. | D. Nosal | C. Martin | Start - 1/94 End - 4/94 | MOE being developed. |
| 6 | | We do not have a systematic method of developing people for future needs of company. | Overlapping systems: -Succession planning -Key performers -Mentoring -Development plans -Minority utilization | -Revisit and modify key performer system. -Implement mentoring system. | | C. Martin | End - 4/94 | |
| 9 | 1/1/94 | We do not have a plan which matches plant production rate with RL demand. | -RL inventory level -RL forecast usage -Raw materials availability | Develop a Park 500 operating scenario to meet company needs. | Defined Park 500 Personnel K. Kriva | J. Naron | 9/94 | On Schedule |
| 10 | 2/1/93 | Safety performance in General Laborer classification is not meeting requirements | -Plant safety TQM's -Pareto by job classification | -Use data analysis to identify common causes/condition/activities, etc. and opportunities for improvement. -Reduce the number of recorded incidents (first-aid, near miss and recordables in the GL group (21 in 1993) by 50%. | Blending: Dave Hall (TL) C. Claiborne Blending Supv (PSA) General Laborer Packing: TBD | P. Jamieson | Blending/Packing Data Review 2/94 Completion - 7/94 MOE's 11/94 MTA - TBD | On Schedule |
| 11 | 2/18/94 | Safety performance in Maintenance Mechanical is not meeting requirements. | -Plant safety TQM's -Pareto by job classification | Identify common cause/activities/conditions etc. through data analysis. Initiate activities following analysis to improve performance for each group. | MEDMT | G. McConnell | Start - 2/18/94 Update - 7/94 End - 11/94 | Action plan being developed. |

2030283974

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Print Date: 4/7/94

| QUALITY COUNCIL COMPLETED C&M ACTIVITIES | | | | | | | | |
|---|------------|---|-----------------------|---|---|---------------------------|----------|----------------------|
| | | | | | | | | revised date: 3/2/94 |
| # | START DATE | PROBLEM | EVIDENCE | OBJECTIVE | TEAM MEMBERS | TEAM LEADER (ACCOUNTABLE) | TIME END | |
| 7 | 1/1/94 | Plant personnel do not have a common understanding of principles. | *Time-out activities* | Put in writing and train managers/supt. on meaning of each principle. | P. Jamison G. McConnell C. Spellmeyer | J. Naron | 2/18/94 | COMPLETE |

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2030283975

QC Decisions re: "Time-Out" Opportunities (Items to be addressed by MANAGEMENT TEAMS)

| Improvement Opportunity | Dept | Accountable | Method to Address | Should be Included on AQP | Completion Date |
|--|----------|---|--|---------------------------|--|
| 1. Review TQM list and ensure: -Responsibility assignments are clear (acct., recorder, analyst) -TQM purpose is known and documented -Clear understanding of team accountabilities for improvement (pure improvement & C&M improvement) | OSDMT | Spellmeyer/ Werkmeister | C&I Team OS 2 On OSDMT C&I Plan | 4-OSDMT-F-93 | QC - Complete SIT - 1/30/94 DMTs - 2/15/94 |
| 2. Ensure clear understanding by all levels in the dept. on what is the purpose of each of the components in the RL SPC System, who is the customer & what the data generated is used for. Conduct training on the floor (RL process) | SIT | Saunders Resource: Hayes | C&M Plan <u>Supts:</u> <i>3/7</i> Where there are SPC Systems, will be on Area Supt C&M Plan | No | 3/15/94 Completion of Training |
| 3. Revise SPC System Change process (RL Process) (FCFC) - keep it simple. (User friendly) | SIT | Saunders Resource: Tudor/Barfield | SIT - C&I Plan | No | 2/16/94 Process Develop |
| 4. Increase Mgrs., Supt., Supv. time allocation to the floor so there is more interaction with the workforce and greater opportunity to model Q500 Principles and improve management methods for monitoring: SPC System use, documentation of needed SPC System improvements, timely submittal of improvement to SIT, etc. | QC | Jamison | QC - C&M Plan | No | 2/15/94 |
| 5. Ensure DMT activities are driven by SPC System data | All DMTs | DMT Leaders | C&M Plans | No | Completed |

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QC Decisions re: "Time-Out" Opportunities (Items to be addressed by MANAGEMENT TEAMS)

| Improvement Opportunity | Dept | Accountable | Method to Address | Should be Included on AQP | Completion Date |
|---|----------|-------------------------------------|--|---------------------------|--|
| 6. Ensure timely and routine review of fulfilling SPC System job responsibilities (part of PMP Process, holding people accountable) | All DMTs | DMT Leaders | C&M Plans (Include in PMP) | No | 2/28/94 |
| 7. Distinguish between activities managed by DMT (as a team) and activities managed individually by Superintendents and Managers | QC | J. Narron | On-going management of C&I and Action Plan activities All DMTs | No | Completed |
| 8. Improve conformance to Principles & the consistency to their meaning (from the QC & throughout the entire Park 500 operation) | QC | J. Narron | QC C&M Plan (Open discussion, revisit Principles, Communication to Plant) | No | 2/28/94 |
| 9. Ensure Production Supervisors have an appropriate level of process knowledge for their respective area of responsibility | PDMT | Jamison Resource: Vickers | C&M Plan | No | 12/94 In-process |
| 10. Finalize evaluation and make decision on maintenance and production alignment (cross vs line deviation) & craft involvement in problem-solving activities in RL Process | QC | Jamison McConnell | QC - C&I Plan <i>Principles Team</i> | Yes | -Decision 3/14/94 -Implementation |
| 11. Develop/reinforce a customer/supplier relationship between Receiving, Blending, Stock Prep, Machine Room & Packing (Awareness and Communication) | PDMT | Jamison | C&M Plan | No | 2/13/94 Plan developed |

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QC Decisions re: "Time-Out" Opportunities (Items to be addressed by MANAGEMENT TEAMS)

| Improvement Opportunity | Dept | Accountable | Method to Address | Should be Included on AQP | Completion Date |
|--|-------|--|-------------------|---------------------------|-----------------------|
| 12. Increase knowledge level & effectiveness of new employees through an orientation process that includes training on Q500 systems & follow up to ensure training effectiveness | OSDMT | Spellmeyer (Vickers to go to each Dept Mgr to get resources) (new employees) | C&M Plan | No | Assessment 3/30/94 |
| 13. Improve the understanding of Park 500 employees about the various levels of application of the PDCA cycle & tools within their work process. Improve the structure of the PDCA Tool Kit so that its use is more practical & "user friendly" with respect to various levels of PDCA applications | OSDMT | Hayes | C&I Plan OS7 | 4-OSDMT-C-93 | 3/30/94 |

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2030283978

**1st Quarter 1994 AQP Timeline
MEDMT(4/25/94)**



| AQP Code | Improvement Opportunity | Area | C&I # | TQM(s) Affected | Potential \$ Savings | Status | 1994 | | | | | | | | | | | | 1995 | | | | | | |
|-----------|--|------|-------|---|--------------------------------|--------|------------------------------|---|---|---|---|---|---|---|---|---|---|---|------|---|---|---|---|---|---|
| | | | | | | | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J |
| 1-MEDMT-B | Reduce plant electrical cost | ME | 12 | RL Cost/lb, Energy Cost/lb | Up to \$200,000/yr | 4 | | | | | | | | | | | | | | | | | | | |
| 2-MEDMT-A | Equip Labels, Elec Documentation, & lighting levels insufficient | ME | 10 | Safety Performance, Pareto of Incidents by Job Classification, Work Process | Management Directive | 4 | | | | | | | | | | | | | | | | | | | |
| 2-MEDMT-B | Process equipment repair scheduling does not occur in a timely manner resulting in poor utilization of dept. resources and overstaging of necessary repair parts | ME | 14 | % Planned W/O completed per schedule | \$200,000 | 2 | <div>9/14/93 - 8/1/94</div> | | | | | | | | | | | | | | | | | | |
| 6-MEDMT-D | Improve system efficiency for identifying/locating repair parts | ME | | | | 1 | | | | | | | | | | | | | | | | | | | |
| 6-MEDMT-E | Modify Stockroom SPC Systems for effective contractor use | ME | | M&E Inventory Accuracy Rate | Management Directive | 2 | <div>6/1/94 - 12/30/94</div> | | | | | | | | | | | | | | | | | | |
| 6-MEDMT-F | Modify Dept SPC Systems to incorporate key dept functions performed by the dept. | ME | | Dept. TQM's Labor Cost Ratio | Management Directive \$100,800 | 2 | <div>4/15/94 - 6/1/94</div> | | | | | | | | | | | | | | | | | | |

2030283979

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STATUS CODES: 1 = Deleted, 2 = Off-Standard/Changed, 3 = Closed-Out/Completed, 4 = In Progress/On Schedule

1st Quarter 1994 AQP Timeline
SEPC (4/25/94)

| AQP Code | Improvement Opportunity | Area | C&I # | TQM(s) Affected | Potential \$ Savings | Status | 1994 | | | | | | | | | | | | 1995 | | | | | | | | |
|----------|---|------|-------|----------------------|----------------------|--------|---|---|---|------------------|---|---|---|---|---|---|---|---|------|---|---|---|---|---|---|--|--|
| | | | | | | | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | | |
| 7-SEPC-A | Improve the Evacuation Plan for the Park Site | SEPC | | TQFA - Safety System | Management Directive | 2 |  | | | | | | | | | | | | | | | | | | | | |
| | | | | | | |  | | | 1/1/94 - 5/20/94 | | | | | | | | | | | | | | | | | |

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2030283980

STATUS CODES: 1 = Deleted, 2 = Off-Standard/Changed, 3 = Closed-Out/Completed, 4 = In Progress/On Schedule

PARK 500 ENGINEERING
DEPARTMENTAL PROJECTS REPORT
NEW REPORT

Job Type
C & I Item

| Problem/Evidence | Team Members | Leader | Plant Dept. Area | Wrt. # | Comments Scope |
|---|--------------------------|--------|------------------|---|--|
| MECH SHOP SUBTEAM | DAC VLV LJS | ELJ | 2080 BL | | INVESTIGATING TRANSFER OF SHOP EQUIPMENT FROM B-100, LINE I BL SHOP REALLOCATED TO HVAC, REVISED ELECTRICAL DESIGN IN PROGRESS |
| REINSTALL LEVEL CONTROLS TO PULPER PUMPS L I & II | JGT | | 2151 SP | 020713 038681 | COMPLETED, PRINTS SENT TO DRAFTING |
| ROBICON/WIEGAND SCHIELE FAN | FJM JFD JWL JFE | EWS | 81 SP | 044436 061508 046366 061510 061511 07085 | ALL INSTRUMENTATION & INITIAL PROGRAMMING INSTALLED, SPEED READOUT PROBE BROKEN-TO BE REORDERED |
| HOOK-UP HEAT TRACE COOLING TOWERS | | EWS | 215181 SP | | IN ENGINEERING - ON HOLD, NO PRIORITY |
| LINE III COOLING TOWER REPLACEMENT | | JFD | 81 SP | | 650 COMPLETE, COMPLETE BY 7/31/94 |
| HYCOR WEL CLEANUP | AVL | RKG | 21 SP | | TESTING UNDERWAY |
| BLACK CLAWSON SAND REMOVAL | AVL | RKG | 21 SP | | DESIGN COMPLETE, PACKAGE IN PLANNING, LINE I INSTALLED, LINE II AWAITING DELIVERY |
| TOSHIBA DRIVE FOR 1ST, 2ND, 3RD STAGE DISCHARGE PUMPS LINE III STOCK PREP | JJJ | JFE | 81 SP | 070094- 070099 | PACKAGES SENT TO P/S 2/22/94 |
| TOSHIBA DRIVE FOR REFINER SUPPLY PUMP #1 #81-065 | JJJ | JFE | 81 SP | 070100 | INSTALLED, PRINTS IN DRAFTING 2/28/94 |
| TOSHIBA DRIVE FOR REFINER SUPPLY PUMP SPARE #81-066 | JJJ | JFE | 81 SP | 070101 | ENGINEERING PACKAGE IN P/S AS OF 2/22/94 |
| KW METERS, LINE I REFINERS | JJJ | FJM | 21 SP | 074125- 074128 | INSTALLED TRANSDUCERS, AWAITING METERS TO BE RECALIBRATED |
| KW METERS FOR REFINERS, LINE II SP | JJJ | FJM | 51 SP | 074129- 074132 | INSTALLED, PRINTS IN DRAFTING |
| SOFT STARTER FOR PULPER #2, LINE I | JJJ EWS | JFE | 21 SP | 076077 | AWAITING SHUTDOWN TO INSTALL SOFT STARTER AND NEW MOTOR |
| REPLACE 3B CONSISTENCY TRANSMITTER | | FJM | 81 SP | | INSTALLATION TO BE DONE WEEK OF 4/25/94, PROBE SENT BACK FOR REPAIR |
| UPDATE UNIVOX | EWS | AVL | 81 SP | 80107 | ON HOLD |
| WEL-3 LIQUOR PUMPS | SBS VLV JJS | ELJ | 81 SP | 078820 078821 | PUMP QUOTES RECEIVED, DESIGN IN PROGRESS |

2030283981

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PARK 500 ENGINEERING
DEPARTMENTAL PROJECTS REPORT
NEW REPORT

| Job Type C & I Item | Problem/Evidence | Team Members | Leader | Plant Dept. Area | Wrt. # | Comments Scope |
|------------------------|--|-----------------|--------|---------------------|----------------------------|---|
| CAPITAL | SHEET SCANNER | RKG EWS | FJM | 10 MR | | JOB ORDER ON HOLD: JUSTIFICATION FOR ONE MOISTURE/BASIS WT. SCANNING SYSTEM BEING REVIEWED FOR ROI BY CEFA |
| | LINE I & II PACKER HYDRAULIC PUMP UPGRADE | JWL | AVL | 31 PKG | | INSTALLATION COMPLETE, FINAL AS-BUILTS IN ENGINEERING, AWAITING J. LUSK REVIEW |
| CAPITAL | LINE II & III TUNNEL DRYER NOZZLE BOX REPLACEMENTS | DLJ HCW | ELJ | 5282 MR | 043016 056255 | APPROPRIATION D-741, JOB ORDERS 7537,7538, PURCHASE ORDER ISSUED FOR LINE II AT JULY 94 SHUTDOWN |
| | INSTALL H.P. CLEANING PUMPS | DLJ VLV | ELJ | 225282 MR | 034801 034586 034585 | MOUNT SIOUX H.P. CLEANING PUMP 2ND FLR FOR FOURDRINIER & MACHINE CLEANING, PREL. COST EST. SUBMITTED, AWAITING MACH RM MNGMT. |
| CAPITAL | DUO-FILTER FOR H.P. SHOWERS | DLJ DM | ELJ | 225282 MR | 037689 042031 042032 | ESTIMATE COMPLETE, AWAITING MACHINE ROOM MANAGEMENT APPROVAL |
| REPLACE | LINE I RELIANCE DRIVE | JFE AVL | EWS | 22 MR | | SOLICITING AND REVIEWING PROPOSALS, ON HOLD FOR LINE II |
| REPLACE | LINE II RELIANCE DRIVE | JFE AVL | EWS | 52 MR | | ON HOLD FOR 1994 |
| REPLACE | LINE III H.P. SHOWER PUMPS (82-183) | EWS | JFE | 82 MR | 046280 | ON HOLD |
| REPLACE | REPLACE V.S. DRIVE ON MACHINE CHEST DISCHARGE PUMP 1 (82-003) | JJJ EWS | JFE | 82 MR | 046994 | INSTALLED 9/93, PRINTS IN DRAFTING 2/28/94 |
| REPLACE | REPLACE V.S. DRIVE ON MACHINE CHEST DISCHARGE PUMP 2 (82-004) | JJJ EWS | JFE | 82 MR | 046995 | INSTALLED 9/93 - PRINTS IN DRAFTING 2/28/94 |
| REPLACE | REPLACE V.S. DRIVE ON FAN PUMP #1 (82-014) | JJJ EWS | JFE | 82 MR | 046998 | PROJECT IN P/S |
| | LINE I JOG PUSHBUTTON FOR UNWINDER | TJW HCW | AVL | 22 MR | 053173 | PACKAGE SENT TO PLANNING & SCHEDULING |
| | LINE II JOG PUSHBUTTON FOR UNWINDER | TJW HCW | AVL | 52 MR | 053172 | PACKAGE SENT TO PLANNING & SCHEDULING |
| | SOFT STARTER FOR LINE II VACUUM FLATBOX PUMP | EWS | JFE | 52 MR | 065439 065446 | INSTALLED IN SEPT, PRINTS REDRAWN FROM ENGR. AND COPY IN DRAFTING 10/22/93, DONE 12/93 |
| | LINE II FAN PUMP #1 DRIVE REPLACEMENT (52-129) | EWS | JFE | 52 MR | | NO TICKET - ON HOLD |
| | SPARE RBW PUMP | DEP | ELJ | 22 MR | | DESIGN IN PROGRESS, PIF #220193, AWAITING DECISION TO CONTINUE WORK |

2030283982

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PARK 500 ENGINEERING
DEPARTMENTAL PROJECTS REPORT
NEW REPORT

| Job Type C & I Item | Problem/Evidence | Team Members | Leader | Plant Dept. Area | Wrt. # | Comments Scope |
|------------------------|---|--------------------------|--------|---------------------|------------------|---|
| | KW METERS, LINE I MR | JJJ | FJM | 22 MR | 074133 074134 | PACKAGES IN P/S |
| | CONSISTENCY TRANSMITTER, MACHINE CHEST LINE I & II | JJJ | FJM | 2252 MR | 078186 078185 | PACKAGE IN P/S 2/21/94 |
| | SOFT STARTER PICKUP VACUUM PUMPS | JJJ EWS | JFE | 52 MR | 076587 | PACKAGE TO P/S 1/8/94 |
| | SOFT STARTER FELT SUCTION BOX VACUUM #52-098 | JJJ EWS | JFE | 52 MR | 076585 | INSTALLED, AWAITING MODS FROM ENGINEERING |
| | SOFT STARTER FOR SUCTION PRESS VACUUM #52-101 | JJJ EWS | JFE | 52 MR | 076584 | PACKAGE IN P/S 1/8/94 |
| | SOFT STARTER FOR SPARE VACUUM PUMP #52-104 | JJJ EWS | JFE | 52 MR | 076583 | PACKAGE IN P/S 1/8/94 |
| | SOFT STARTER FOR COUGH ROLL VACUUM PUMP #52-095 | JJJ EWS | JFE | 52 MR | 076582 | INSTALLED, AWAITING MODS FROM ENG. |
| | CONSISTENCY TRANSMITTER FOR MACHINE CHEST LINE 3 | JJJ | FJM | 82 MR | 077662 | COMPLETED 4/22/94 |
| | RBW SPARE PUMPS | JJJ | ELJ | 22 MR | 079870 | |
| | LINE III PREP ROOM MODIFICATIONS | JJJ AVL WRB FJM | JSA | 82 MR | | DESIGN IN PROGRESS |
| | DN CEL TESTING | JJJ | FJM | 52 MR | | CONDUIT & WIRE FOR PRELIM. SCOPE WEEK OF 4/25/94, DESIGN IS ACTIVE |
| | LINE III 150B | JJJ | AVL | 82 MR | | DESIGN IS IN PROGRESS WITH INSTALLATION SCHEDULED FOR JUNE |
| | LAKOS SEPARATOR | JJJ | AVL | 52 MR | | INSTALLATION COMPLETE 4/22, START-UP 4/25 |
| | HVAC #52-538 REPLACEMENT | JFE RH | AVL | 52 MR | | AWAITING SHOP ORDER NUMBER FROM FINANCE |
| | REPLACE REEVES DRIVE, LINE II SIZE FEED PUMP | EWS RCH JJJ | DLB | 52 MR | 080221 | SCOPED OUT, ENGINEERING IN PROGRESS |
| | REPLACE DRIVE & MOTOR ON LINE III SIZE RETURN PUMP | EWS RCH JJJ | DLB | 82 MR | 080224 | SCOPED OUT AND ENGINEERING IN PROGRESS |

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PARK 500 ENGINEERING
DEPARTMENTAL PROJECTS REPORT
NEW REPORT

| Job Type C & I Item | Problem/Evidence | Team Members | Leader | Plant Dept. Area | Wrt. # | Comments Scope |
|------------------------|---|-------------------|--------|---------------------|-----------|--|
| | REPLACE PARAJUST ON LINE III SIZE SUPPLY PUMP | EWS RCH JJJ | DLB | 82 MR | 080222 | #1 PARAJUST FAILED AND REPLACED, #2 SCOPED OUT & ENG. IN PROGRESS |
| PDMT#24 | SEAM FELT HOLDER | SBS ELJ | RKG | 82 MR | | SHOP FAB TO START 4/25 |
| | UREA BULK BAG SYSTEM | SBS VLV | TF | 52 MR | | ESTIMATES COMPLETE, AWAITING ALTERNATIVE SELECTION TO FINALIZE DESIGN |
| | MAKE-UP AIR COIL | LJS SBS JSB | ELJ | 82 MR | | DESIGN IN PROGRESS |
| | HEADBOX REPLACEMENT | RKG | ELJ | 52 MR | | SIRRINE TO DEVELOP 650 ESTIMATE |
| | PACKER DISTRIBUTION SUB-TEAM | LJS | EBS | 3132 PKG | | DEVELOPING INSTALLATION PACKAGE TO CONVERT IN-FEED CONVEYORS TO VARIABLE SPEED DRIVES |
| | POWERHOUSE SWITCHGEAR MODS. TO 2300 & 480V TIES | EWS OHJ | DRM | 87 PH | 059059 | ON HOLD TIL SHUTDOWN |
| | POWERHOUSE KVB TEAM 2 | EWS APP | EFB | 67 PH | | ALR COMPUTER HAS BEEN UPGRADED AND RETURNED TO SERVICE, MIMIC AND TERMINAL SOFTWARE TO BE INSTALLED 2/94, TO BE INST. IN REMOTE COMPUTER |
| JAP ENV COMP | KVB REBUILD 8 PH | OHJ EWS | GLH | 376787 PH | 035356 | PUNCHLIST & MAINT. NOTES TO BE TYPED (BACKLOGGED) |
| | BOILER/TURBINE SUPERVISORY CONTROL | EWS DAC | GLH | 376787 PH | | PROPOSAL RECEIVED, AWAITING AREA MANAGEMENT DECISION ON HOW TO PROCEED |
| | VA. POWER SCHEDULE SG | EWS | GLH | 44 PH | | AWAITING MANAGEMENT APPROVAL (SUBMITTED 5/89) AND/OR RESPONSE FROM GLH |
| | COAL ELEVATOR PLUG CHUTE ALARM | AVL | DRM | 86 PH | | ENGINEERING COMPLETED, INSTALLED 4/94 |
| | A/B BOILER HOUSE DATA HIGHWAY TRACING | JJJ | FJM | 67 PH | 070457 | DATA HWY TRACED, MADE WORK ORDER TO HAVE ONE WIRE RUNG OUT, WORK ORDER IN P&S |
| | #3 BOILER FEEDWATER PIPING UPGRADE | | JFD | 87 PH | | INCREASE LINE SIZE FROM 6" TO 10" FROM D.A. TANK TO 3A AND 3B F.W. PUMPS, COMPLETED 4/94 |
| | RE-LINE OR REPLACE 'A' NEUTRALIZATION TANK @ PH | | JFD | 0 PH | | QUOTES ON OPTIONS REC'D, AWAITING CONFINED SPACE DECISION FROM RICHMOND |
| | POWERHOUSE CORE TEAM SUB-TEAM | EWS JFD OHJ | DRM | 376787 PH | | REVIEWED/REVISED POWER QUALITY PARAMETERS FOR TQFA'S |

2030283984

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PARK 500 ENGINEERING
DEPARTMENTAL PROJECTS REPORT
NEW REPORT

| Job Type C & I Item | Problem/Evidence | Team Members | Leader | Plant Dept. Area | Wrt. # | Comments Scope |
|------------------------|--|--|--------|---------------------|-----------|---|
| | TURBIDITY RECORDER FOR CONDENSATE RETURN | | EWS | 87 PH | 071733 | IN ENGINEERING, PRELIM. SCOPE DONE |
| | D/P ALARM FOR CONTROL ROOM 37-098 | | EWS | 37 PH | 045479 | PRELIM. SCOPE DONE |
| | 190/35# VALVE ALARM | | EWS | 67 PH | 059997 | PRELIM. SCOPE DONE |
| | SWITCHGEAR SHUTDOWN PROCEDURES | DRM JFE | EWS | 10 PLT | | BLUE BOOK BEING REVISED AND REPUBLISHED (SEE ALSO H.V. TRAINING) |
| SAFETY | DOCK LEVELERS/TRUCK RESTRAINTS | WGE DLJ SS DHK | ELJ | 10 PLT | 020221 | INVESTIGATING TRANSFER OF TRUCK RESTRAINTS FROM 20TH STREET |
| CAPITAL | PLANTWIDE CONTROL SYSTEM REVIEW (PLANTWIDE CONTROL UPGRADE) | EWS AVL EFB JMC | FJM | 10 PLT | | 650 IS CIRCULATING FOR APPROVAL |
| | MEZZANINE MONORAILS & RIGGING BEAMS - LINES I, II, & III | AVL | PLD | 225282 PLT | | INSTALLATION COMPLETE, AS-BUILTS TO COMPLETE 5/94 |
| | TRANSF #3 - SM4 13.8 KV BREAKER | EWS | GLH | 10 PLT | J07344 | COLLECTED DATA FROM MIKE KLEMEN, STILL TO GET UPDATES FROM FIELD |
| | VA. POWER METERING & BILLING | EWS | GLH | 10 PLT | | AWAITING SCOPE FROM CUSTOMER (GLH) |
| | PLANTWIDE E & I DOCUMENTATION UPGRADE | LJS SJR | FJM | 10 PLT | | WORK CONTINUING ON AREA 52 EE'S, AREA 22 EE'S COMPLETE EXCEPT FOR PUNCHLIST ITEMS, LIGHTING IN PROCESS AREAS IS 90% COMPLETE |
| | ENERGY MANAGEMENT TEAM | JGT AVL EWS DRM SBS JFE | EBS | 10 PLT | | 3 DIANA CHART COMPUTERS CLEANED & 1 INSTALLED AT PH ON ECB MONITORING DATA ON 10 LOAD CENTERS & 4 SOURCES, TRYING TO UPLOAD VP DATA |
| | REPAIR 10-900 13.8 KV SWITCHGEAR | EWS | JFE | 10 PLT | | CONSTRUCT FOR CABLE INSTALLATION AND INSTALLATION IN PROGRESS |
| | SIEMENS-ALLIS SUB-BREAKER REPLACEMENT | JFE | EWS | 10 PLT | | RECOMMEND FM PROGRAM FOR EXISTING BREAKERS UNTIL ACCEPT. ALTERN. FOUND, TALKING TO VENDORS, NO PROJ. SCHEDULE |
| | TOSHIBA DRIVE SETTINGS, LINES I, II, & III | JFE | EWS | 10 PLT | | DOCUMENTATION OF SETTINGS DONE, RESET & ADDING 1/I'S, IN P/S |
| | H.V. SAFETY TRAINING | JFE EWS | BH | 10 PLT | | BEING PRIORITIZED AND SCHEDULE BEING DEVELOPED BY TRAINING GROUP 1/94, REVIEWED TRAINING MATERIALS 3/24/94 |

2030283985

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PARK 500 ENGINEERING
DEPARTMENTAL PROJECTS REPORT
NEW REPORT

| Job Type C & I Item | Problem/Evidence | Team Members | Leader | Plant Dept. Area | Wrt. # | Comments Scope |
|------------------------|-------------------------------|-------------------|--------|---------------------|-----------|--|
| | #3 AIR COMPRESSOR REPLACEMENT | | JFD | 10 PLT | | AWAITING OK TO PURCHASE NEW OR RELOCATE FROM PMF |
| | ELECTRICAL COST ESTIMATING | | AVL | 10 PLT | | REVIEWING SOFTWARE PACKAGE |
| | UPDATE KVB'S AND PLC'S | EWS | AVL | 10 PLT | | KVB DONE 4/8/94 |
| | UPDATE PROVOX | EWS FJM SJR | AVL | 10 PLT | | POWER HOUSE DONE 4/8/94 |
| CAPITAL | ULTRASONIC THICKNESS GAUGE | | ELJ | 10 PLT | | PURCHASE REQUISITION ISSUED |
| | LAB SPILL/HVAC CONTROL | JJJ EWS | APP | 61 LAB | 014495 | INSTALLED, PRINTS BEING MARKED UP IN FIELD |

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2030283986

| | ISSUE | ACTION | STATUS | RESPONSIBLE PERSON | TARGET DATE | DONE | PAGE | RELATED PAGES |
|----|---|---|--|----------------------------|-------------|------|--------|---------------|
| 1 | Include warehouse areas & lube oil shed in SPCC Plan and improve containment. | Modify SPCC Plan & review/improve containment. | To be done | Boile, / Clark & E. Tatum | | | 35 | 7 to 10 |
| 2 | SPCC equipment is not maintained near likely spill sites | Plan, purchase & modify SPCC Plan | Completed | & E. Tatum | | | 36 | 7 to 10 |
| 3 | SPCC personnel require training & drills | Train SPCC personnel, conduct drill, & document | Completed | & E. Tatum | | | 36 | 7 to 10 |
| 4 | SPCC equipment & areas must be inspected | Develop inspection sheets, implement & document | 1/2 complete Small Tanks - Not sure what's needed | Pickelhouse & E. Tatum | | | 36 | 7 to 10 |
| 5 | Periodic testing of tanks <i>Tanks involved to be defined</i> | Select methods & schedule; implement & document | " " " " " | Small Tanks & E. Tatum | | | 36 | 7 to 10 |
| 6 | Evaluate soil permeability at oil dike | Conduct & possibly modify SPCC | Completed | | | | 36 | 7 to 10 |
| 7 | Determine VA's requirements for ground water monitoring | Determine & implement | Completed | & E. Tatum | | | 36 | 7 to 10 |
| 8 | Hydraulic systems may contain PCBs | Test & document | Completed (Done previously) | | | | 37 | 10 |
| 9 | New stormwater connections may impact wastewater treatment performance | Review plans | Completed | | | Yes | 37 | 14 & 15 |
| 10 | Stock Prep vent line discharges to storm sewer | Eliminate or route to process sewer | Completed | | | | 37 | 14 & 15 |
| 11 | Package wastewater units will be eliminated | Close & Remove | Completed | | | Yes | 38 | 13 & 14 |
| 12 | Expired inspection certification for water tank | Renew & implement system to keep current | Completed | | | | 38 | 16 |
| 13 | Haz Mat inventory not accurate | Improve Haz Mat inventory procedures | To be done | | | | 38 | 17 & 18 |
| 14 | Solvents in maintenance shops mixed with used oil | Develop procedures, implement, document | 1/2 complete Check needs to be implemented | Pickelhouse & E. Estrada | | | 39 | 18 to 22 |
| 15 | Hazardous waste procedures are outdated | Develop procedures, implement, document | | Pic Kishkoush & E. Estrada | | | 39, 40 | 18 to 22 |
| 16 | Waste containers left open, not labeled, not dated, area not inspected | Develop procedures, implement, document | Completed written Check list to be developed | Small & E. Estrada | | | 39 | 18 to 22 |

2030283987

| | ISSUE | ACTION | STATUS | RESPONSIBLE PERSON | TARGET DATE | DONE | PAGE | RELATED PAGES |
|----|--|--|---|-------------------------------------|-------------|------|------|---------------|
| 17 | Painting & fork lift contractors are handling & disposing of their waste | Develop procedures, implement, document | Completed Audit developed | Pickelhaupst & E. Estrada | | | 40 | 18 to 22 |
| 18 | Hazardous waste personnel require training | Develop procedures, implement, document | To be done | Pickelhaupst & E. Estrada | | | 39 | 18 to 22 |
| 19 | QA Lab has old chemicals | Review & remove | Completed | & E. Estrada | | | 40 | 18 to 22 |
| 20 | hazardous waste labels on empty & non-hazardous drums | Develop procedures, implement, document | Completed Procedure developed | & E. Estrada | | | 41 | 18 to 22 |
| 21 | Manifests not at facility | Determine if necessary & implement | Completed / Site # | Pickelhaupst & E. Estrada | | | 41 | 18 to 22 |
| 22 | Manifests do not have same name & address | Develop procedures, implement, document | Completed Procedure to be developed | | | | 41 | 18 to 22 |
| 23 | Pesticide storage building not secure, inventory outdated, no washing signs | Correct, develop better procedures, implement, document | Completed Audit to be done | Pickelhaupst & E. Estrada Audley | | | 42 | 22 |
| 24 | Empty pesticide containers left on open ground | Correct, develop better procedures, implement, document | Completed | Pickelhaupst & E. Estrada Audley | | | 42 | 21 |
| 25 | Contractors are not inspected periodically to ensure compliance with PM procedures | Develop procedures, implement, document | Verbally Completed Audit to be developed | & E. Estrada | | | 42 | 21 |
| 26 | Boiler optimizations increased emission levels | Determine regulatory requirements, implement, document | Completed | & W. Pitts | | | 42 | 23 to 28 |
| 27 | Operating & operator training need improvement | Develop procedures, implement, document | Being Completed | Pickelhaupst & W. Pitts | Puglisi | | 43 | 23 to 28 |
| 28 | Inspection & maintenance procedures need improvement | Develop procedures, implement, document | Being Completed | Pickelhaupst & W. Pitts Clark | Puglisi | | 41 | 23 to 28 |
| 29 | State not informed of numerous process/equipment changes | Determine regulatory requirements, develop inventory procedures, implement, document | Being Done | Puglisi & W. Pitts | | | 44 | 23 to 28 |

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| | ISSUE | ACTION | STATUS | RESPONSIBLE PERSON | TARGET DATE | DONE | PAGE | RELATED PAGES |
|----|---|---|--|------------------------------|-----------------------|------|------|---------------|
| 30 | Landfills & MRFs not inspected | Develop procedures, implement, document | <i>Not Part of R500</i> | & E. Estrada | | | 44 | 29 |
| 31 | Petroleum absorbents may be hazardous waste | Determine, develop procedures, implement | <i>Completed / Program in place</i> | & E. Estrada | | | 44 | 28 |
| 32 | Poor drum storage in Blending Area 20, floor drains dike, signs | Develop procedures, implement, document | <i>In Progress</i> | <i>Pickelhaupt</i> | | | 45 | 30 |
| 33 | Painting contractor improperly storing materials | Correct, develop better procedures, implement, document | <i>Completed / Audit being developed</i> | <i>Pickelhaupt / Audited</i> | | | 45 | 31 |
| 34 | MSDS books not kept up to date | Update more frequently | <i>1/2 Completed / Audit being developed</i> | <i>Safety Team</i> | <i>Butcher Shops?</i> | | 46 | 31 |
| 35 | Lead Acid batteries at pesticide building | Correct, develop better procedures, implement, | <i>Completed</i> | | | | 46 | 31 |
| 36 | Hazardous material inventory does not include Bermuda Hundred & Pilot Plant | Correct | <i>To be developed if feasible</i> | <i>Pickelhaupt</i> | | | 46 | 31 |
| 37 | Used oil procedure not followed | Train on procedures, document | <i>Completed / Audit to be developed</i> | <i>Pickelhaupt</i> | | | 46 | 31 |
| 38 | Personnel not aware of asbestos potentials | List, train, document | <i>Ensure we trained all</i> | <i>Boiley / Pickelhaupt</i> | | | 47 | 32 |
| 39 | NCR radiation permit copy not on site | Determine regulatory requirements, implement | <i>Verify none on site</i> | <i>Pickelhaupt</i> | | | 47 | 33 |
| 40 | Medical waste could be placed with sharps | Review procedures, determine requirements, implement | <i>Completed / Procedure in place</i> | | | | 47 | 34 |

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EQUIPMENT STANDARDS

2030283990

RL PROCESS EQUIPMENT STANDARDS

LINE I

Process Stage: REFINING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|--|---|-----------------|-----------------------------|---|--|------------|------------------|
| 22 E-1 | Tickler Refiner Supply Pump Condition | Inlet pressure to 1st refiner with flow to Stuff Box on Standard. | Senior Operator | Mechanic | Once every two months | >= 25 PSI | | A, B, C, D |
| 22 E-2 | Tickler Refiner Plate Installation - Clearance | Measured with ruler after plates have run in and have stopped. | E/I | E/I | Each plate change | | 1/8 - 1/4" | D |
| 22 E-3 | Tickler Refiner Pressure Gauge Accuracy | Visual inspection for glycerin level and return to zero when refiner is down. | E/I | E/I | Each plate change. | | | A, B, C |
| 22 E-4 | Tickler Refiner Plate Placement/Installation of Plates | Plate installed correctly for: B/C - Even # to Motor End S/W - Odd # to Motor End | Mechanic | Mechanic | Each plate change | B/C - Durametal 243-0163 (801-802) S/W - Durametal 243-0111 (007-008) | | A, B, C, D, E |
| 22 E-5 | Tickler Refiner Packing Type | Packing gland packed per Manufacturer Equipment Instructions | Mechanic | Mechanic | Check packing each plate change Repack if gland pulled up within 1/4" of stuffing box. | B/C - Packing - 243-0201 Lantern Ring - 243-0008 S/W - Packing 243-0113 Lantern Ring 243-0115 | | D, E |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE 1

Process Stage: REFINING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|--------------------------------|---|------------------|-----------------------------|-------------------------|---|------------|------------|
| 22 E-6 | Tickler Refiner Plate Wear | TBD | | | | | | A, B, C, D |
| 22 E-7 | F.C.V. to Stuff Box Condition | Pull and visually inspect valve internal condition PL22487 | E/I/ Mechanic | E/I | Each scheduled shutdown | Ceramic interior free of cracks, chipped places or fragments. | | A, B, C |
| 22 E-37 | Tickler Refiner Seal Condition | Visual inspection for cuts, splits, tears and nicks. | Mechanic | Mechanic | Each plate change | B/C Seal - 243-0114 S/W Seal - 243-0012 | | D, E |
| | | | | | | | | |
| | | | | | | | | |

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Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

RL PROCESS EQUIPMENT STANDARDS

LINE I

Process Stage: SHEET FORMATION

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|---|-----------------|--------------------------------|----------------------------------|--|------------|------------|
| 22 E-8 | Large Gate Valve (> 3") Operational Condition (SBW/ RBW Tanks, Inlet and Outlet Valves on Fan Pumps, M.C. Discharge and Refiner Supply) | Turn valve open or close to ensure operational condition and return valve position to original setting. | Senior Operator | Lubricator/ Inspector Mechanic | Each Process Clean-up/ Bleaching | Valves are able to turn without any major exertion being applied using 12" valve wrench. | | D, E |
| 22 E-9 | Couch Roll External Shower Nozzle Condition | Visually inspect shower nozzles for proper operation and spray pattern. | Senior Operator | Mechanic | Each wire change (Quarterly) | Nozzles are free of plugs and will re-seat at 25 PSI. | | A, B, C, D |
| 22 E-10 | Couch Roll Shell Condition | Visual inspection of shell holes. | Senior Operator | Senior Operator | Each time wire is removed | Holes in shell are open and clean after washing. | | A, B, C, D |
| 22 E-11 | Couch Roll Vacuum Box Setting | Scale on tender-side end of roll. | Mechanic | Mechanic | Each roll installation | 11degrees | | B |
| 22 E-12 | Wire Return Rolls Dr. Blade Condition | Hand operation of Dr. Blade operator to ensure blade is against roll evenly across length of roll. | Senior Operator | Mechanic | Each time wire removed | Even wear on Dr. Blade across roll. Roll can be turned by hand with blade engaged. | | A |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE I

Process Stage: SHEET FORMATION

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|--|--|------------|-----------------------------|-----------------------|----------------------|------------|------------|
| 22 E-13 | Forming Board Condition | TBD | | | | | | A, B, C, D |
| 22 E-14 | Wire Return/Breast Roll Surface Condition | TBD | | | | | | A, B, C, D |
| 22 E-15 | Guide Rolls Systems Condition - Mechanical | Per PM Procedure P22128A P22131A P22145A P22146A | Mechanic | Mechanic | Each felt change | | | D |
| 22 E-16 | Guide Rolls Systems Condition - Electrical | Per PM Procedure PL22128 PL22131 PL22145 PL22146 | E/I | E/I | Each felt change | | | D |
| 22 E-36 | Wire Showers Posi-Purge Controls | Per PM Procedure P22618 | E/I | E/I | Once every two months | | | B |

Impacts:

- A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

2030283994

RL PROCESS EQUIPMENT STANDARDS

LINE I

Process Stage: PRESSING AND DRYING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|--|--|---------------------------------|-----------------------------|----------------------------|---|----------------------|---------|
| 22 E-17 | Line Shaft Drive Belts Condition | Visual inspection of splice and width of belts and guide rollers are free turning and in good condition. | Lubricator/Inspector | Mechanic | Each felt change | No separation at splice. Belts no more than 1/4" less than original width | | D |
| 22 E-18 | Line Shaft Drive Belts Shifters Condition (Can sections and size press only.) | Hand operation of each belt shifter control to ensure operation. | Senior Operator/ #1 Operator | Mechanic | Once per week at felt wash | Belt shifter engages and will move belt in each direction | | D |
| 22 E-19 | Wet Felt Rolls Bearing Alignment | Check each roll moved during felt change with gauge block. | Mechanic | Mechanic | After each felt change | .000" off center | +/- .050" off center | D |
| 22 E-20 | Plain Press Roll Bearing Alignment | Check for uniform clearance at seal ring with feeler gauge. | Mechanic | Mechanic | After each felt change | >/.010" at all points around seal ring | | D |
| 22 E-21 | Suction Press Roll Vacuum Box Setting | Scale on tender-side end of roll. | Mechanic | Mechanic | Each roll installation | 23 degrees clockwise | | A, B, D |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

RL PROCESS EQUIPMENT STANDARDS

LINE I

Process Stage: PRESSING AND DRYING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|----------------------|-----------------------------|-------------------------|---|-----------------|------------|
| 22 E-22 | Instrument Air Cleanliness | Check differential pressure on air filters with bypass valve closed and selector switch in auto. | Lubricator Inspector | Mechanic | Once per month | <= 5 lb. pressure drop | | D |
| 22 E-23 | Continuous Dr. Blade Profile and Angle | -Use protractor block for angle. -Check each finger with gauge block P22040 | Mechanic | Mechanic | Each felt change | -17 degree angle -Uniform tension between each finger w/no variation | +/- 1/2 degrees | A, B, C, D |
| 22 E-24 | Yankee Hood Air Temperature Accuracy | Compare RTD output to controller reading. PL22221 PL22230 | E/I | E/I | Each scheduled shutdown | 0% difference in outputs | +/- 3% | C |
| 22 E-25 | Yankee Hood System Steam Trap Operation | Per PM Procedure P22291F P22293F | Mechanic | Mechanic | Every two months | | | B, C |
| 22 E-26 | Yankee Hood System Dampers Condition | Per PM Procedure P22291B P22293B P22291E P22293E | Mechanic | Mechanic | Each scheduled shutdown | | | B, C |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

2030283996

RL PROCESS EQUIPMENT STANDARDS

LINE I

Process Stage: PRESSING AND DRYING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|-----------------------|--------------------------------|-------------------------|--|------------|---------------|
| 22 E-27 | Yankee Hood System Dampers Controls Condition | Per PM Procedure PL22224 PL22227 | E/I | E/I | Each scheduled shutdown | | | B, C |
| 22 E-28 | Yankee Hood System Fans Bearing Temperature (Date Collection - TBD) | Raytech Heat Gun | Lubricator/ Inspector | Mechanic | Once per week | | | A, B, C, D, E |
| 22 E-29 | Yankee Hood System Fans Bearing Vibration | CSI 2110 Meter | Shop Engineer | Mechanic | Once per month | The overall value </= .4 ips on 88 KCPM span | | A, B, C, D, E |
| 22 E-30 | Yankee Bearing Lube System Flow Rate | Visual inspection of sight glass on each bearing for flow. | Senior Operator | Lubricator Inspector/ Mechanic | Each shift | Intermittent flow through sight-glass. | | D |
| 22 E-31 | Machine Lube Systems Condition - Electrical | Per PM Procedure P22 (TBD) | E/I | E/I | | | | D |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

2030283997

RL PROCESS EQUIPMENT STANDARDS

LINE I

Process Stage: PRESSING AND DRYING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|----------------------------------|--|------------|-----------------------------|--|---|------------|---------|
| 22 E-32 | Yankee Dryer Surface Conditions | Per PM Procedure P22065A | Mechanic | Mechanic | Each scheduled shutdown | | | A, D |
| 22 E-33 | Machine Drives Motor Condition | Per PM Procedure P22053 P22052 P22056A P22061, P22315 | E/I | E/I | Each scheduled shutdown | | | D |
| 22 E-34 | Can Dryer Steam Traps Operation | Per PM Procedure P22035C | Mechanic | Mechanic | Every two months | | | B, C |
| 22 E-35 | Can Dryer Stretch Roll Operation | Stroke cylinder to ensure full travel. PL22142 PL22144 | Mechanic | Mechanic | Each time felt is slacked off, at the same time felt is slacked off. | 100% full stroke or whenever felt is tight. | | D |
| | | | | | | | | |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE 1

Process Stage: SIZE PREP AND APPLICATION

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|---|-------------|-----------------------------|--|--|------------|---------|
| 22 E-51 | Prep Room Badger Meters Accuracy | Per PM procedure: PL22001, PL22002, PL22003, PL22189, PL22286, PL22290, PL22437 | E/I | E/I | Once every two months | | | B |
| 22 E-52 | Size Transfer Recirculation Valve Condition | Visual inspection of internal condition. PL22180 | Mechanic | Mechanic | Each time Lines are high pressure cleaned. | Free of any build-up or obstructions in each port. | | D |
| 22 E-53 | Size Supply Pumps Capacity | Check RPM gauge on panel during normal operations. | #1 Operator | Mechanic | Once per day | <= 500 RPMs | | B, D |
| 22 E-54 | Size Return Pumps Capacity | Check RPM gauge on panel during normal operations. | #1 Operator | Mechanic | Once per day | <= 700 RPMs | | B, D |
| 22 E-55 | Size Press Dr. Blade Condition | Check to ensure front side and back side engage uniformly (come down together). | #1 Operator | Mechanic | Once per month | | | D |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE I

Process Stage: SIZE PREP AND APPLICATION

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|-------------|-----------------------------|----------------------|--|------------|------------|
| 22 E-56 | Soft Size Press Roll Surface Condition | TBD | | | | | | A, B, D |
| 22 E-57 | Size Press Roll Loading System Condition | Check to ensure front side and back side engage uniformly. | #1 Operator | E/I | Each felt wash | | | A, B, C, D |
| 22 E-58 | Speed Differential Between Size Press Rolls | Hand held tachometer measuring surface speed on each roll. | E/I | E/I | Once per month | Hard roll running faster than soft roll. | 1-3% | A, B, D |
| | | | | | | | | |
| | | | | | | | | |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE I

Process Stage: DRYING AND CUTTING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|---|----------------------|-----------------------------------|--------------------------|--|--------------------|---------|
| 22 E-71 | Tunnel Dryer Drive Motor Amps | Check the amp gauge on the #1 Operator's panel. | #1 Operator | Lubricator Inspector/ Mechanic | Once per shift | ≤ 50 amps at normal operating conditions. | | D |
| 22 E-72 | Tunnel Dryer Systems Fans Bearing Temperature | Raytech heat gun. | Lubricator Inspector | Mechanic | Once per week | | 90 - 180 degrees F | D |
| 22 E-73 | Tunnel Dryer Supply Fans Bearings Vibration | CSI 2110 meter | Shop Engineer | Mechanic | Once every two months | The overall value is $\leq .4$ ips | | D |
| 22 E-74 | Tunnel Dryer Exhaust Fans Bearings Vibration | CSI 2110 meter | Shop Engineer | Mechanic | Once per month | The overall value is $\leq .4$ ips | | D |
| 22 E-75 | Tunnel Dryer Chain Tension | Visual inspection of chain and sprockets. | #2 Operator | Mechanic | Once per day at feltwash | Chain in contact with idler sprockets with no sag, clearance entering dryer. | | D |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE I

Process Stage: DRYING AND CUTTING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|----------------------|-----------------------------|-------------------------|----------------------|------------|---------|
| 22 E-76 | Tunnel Dryer Chain Condition | Per PM Procedure P22315 | Mechanic | Mechanic | Each scheduled shutdown | | | D |
| 22 E-77 | Tunnel Dryer Lube System Operation | Per PM Procedure P22384C | Lubricator Inspector | Lubricator Inspector | Once per day (M-F) | | | D |
| 22 E-78 | Transfer Conveyors Bearing Condition | Check to ensure all rolls are turning. No roughness present in bearings. | Lubricator Inspector | Mechanic | Once per month | | | C, D |
| 22 E-79 | Incline Transfer Conveyors Belt Condition | TBD | | | | | | C, D |
| | | | | | | | | |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

2030284002

RL PROCESS EQUIPMENT STANDARDS

LINE I

Process Stage: PACKING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|----------------------|-----------------------------|----------------------|--|--------------------------|---------|
| 31 E-1 | Packer Conveyor Scale Accuracy | Place a set of standard weights on each scale. | Packing Attendant | E/I | Once per day | -Domestic -1281 lbs. -Export - 424 lbs. | +/- 4 lbs. +/- 4 lbs. | B |
| 31 E-2 | Transfer Belt Conveyors Bearing Condition | Check to ensure all rolls are turning. No roughness present in bearings. | Lubricator Inspector | Mechanic | Once per month | | | D |
| 31 E-3 | Incline Transfer Conveyors Belt Condition | TBD | | | | | | D |
| 31 E-4 | Strapper Heater Temperature Setting | Check dial setting. P31028A P31306 | Mechanic | Mechanic | Once per week | 4 | | D D |
| 31 E-5 | Strapper Heater Timer Setting | Check dial setting on each timer. P31028B P31306B | E/I | E/I | Once per week | -T1 - 2 1/2 -T2 - 4 | 2 1/2 - 3 4 1/2 - 4 | D |
| 31 E-6 | Strapper Heat Knife Cleanliness | Visual inspection of knife. P31028A P31306 | Mechanic | Mechanic | Once per week | Knife free of build-up or trash. | | D |
| 31 E-7 | Packer Hydraulic Pump System Condition (Pump Room Only) | Visual inspection for leaks, proper oil level and filter cleanliness during normal operations. | Lubricator Inspector | Lubricator Inspector | Once per day (M-F) | -Oil level is \leq 12" below top of tank -Oil temperature is \leq 130 degrees F | | D |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE II

Process Stage: REFINING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|--|---|-----------------|-----------------------------|---|--|------------|------------------|
| 52 E-1 | Tickler Refiner Supply Pump Condition | Inlet pressure to 1st refiner with flow to Stuff Box on Standard. | Senior Operator | Mechanic | Once every two months | >= 30 psi | | A, B, C, D |
| 52 E-2 | Tickler Refiner Plate Installation - Clearance | Measured with ruler after plates have run in and have stopped. | E/I | E/I | Each plate change | | 1/8 - 1/4" | D |
| 52 E-3 | Tickler Refiner Pressure Gauge Accuracy | Visual inspection for glycerin level and return to zero when refiner is down. | E/I | E/I | Each plate change. | | | A, B, C |
| 52 E-4 | Tickler Refiner Plate Placement/Installation of Plates | Plate installed correctly for: B/C - Even # to Motor End S/W - Odd # to Motor End | Mechanic | Mechanic | Each plate change | B/C - Durametal 243-0163 (801-802) S/W - Durametal 243-0111 (007-008) | | A, B, C, D, E |
| 52 E-5 | Tickler Refiner Packing Type | Packing gland packed per Manufacturer Equipment Instructions. | Mechanic | Mechanic | Check packing each plate change Repack if gland pulled up within 1/4" of stuffing box. | B/C - Packing - 243-0201 Lantern Ring - 243-0008 S/W - Packing - 243-0113 Lantern Ring 243-0115 | | D, E |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE II

Process Stage: REFINING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|--------------------------------|---|------------------|-----------------------------|-------------------------|---|------------|------------|
| 52 E-6 | Tickler Refiner Plate Wear | TBD | | | | | | A, B, C, D |
| 52 E-7 | F.C.V. to Stuff Box Condition | Pull and visually inspect valve internal condition PL52667 | E/I/ Mechanic | E/I | Each scheduled shutdown | Ceramic interior free of cracks, chipped places or fragments. | | A, B, C |
| 52 E-37 | Tickler Refiner Seal Condition | Visual inspection for cuts, splits, tears and nicks. | Mechanic | Mechanic | Each plate change | B/C Seal - 243-0114 S/W Seal - 243-0012 | | D, E |
| | | | | | | | | |
| | | | | | | | | |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

2030284005

RL PROCESS EQUIPMENT STANDARDS

LINE II

Process Stage: SHEET FORMATION

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|---|-----------------|--------------------------------|----------------------------------|--|------------|------------|
| 52 E-8 | Large Gate Valve (> 3") Operational Condition (SBW/ RBW Tanks, Inlet and Outlet Valves on Fan Pumps, M.C. Discharge and Refiner Supply) | Turn valve open or close to ensure operational condition and return valve position to original setting. | Senior Operator | Lubricator/ Inspector Mechanic | Each Process Clean-up/ Bleaching | Valves are able to turn without any major exertion being applied using 12" valve wrench. | | D, E |
| 52 E-9 | Couch Roll External Shower Nozzle Condition | Visually inspect shower nozzles for proper operation and spray pattern. | Senior Operator | Mechanic | Each wire change (Quarterly) | Nozzles are free of plugs and will re-seat at 25 psi. | | A, B, C, D |
| 52 E-10 | Couch Roll Shell Condition | Visual inspection of shell holes. | Senior Operator | Senior Operator | Each time wire is removed | Holes in shell are open and clean after washing. | | A, B, C, D |
| 52 E-11 | Couch Roll Vacuum Box Setting | Scale on tender-side end of roll. | Mechanic | Mechanic | Each roll installation | 11degrees | | B |
| 52 E-12 | Wire Return Rolls Dr. Blade Condition | Hand operation of Dr. Blade operator to ensure blade is against roll evenly across length of roll. | Senior Operator | Mechanic | Each time wire removed | Even wear on Dr. Blade across roll. Roll can be turned by hand with blade engaged. | | A |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE II

Process Stage: SHEET FORMATION

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|--|--|------------|-----------------------------|-----------------------|----------------------|------------|------------|
| 52 E-13 | Forming Board Condition | TBD | | | | | | A, B, C, D |
| 52 E-14 | Wire Return/Breast Roll Surface Condition | TBD | | | | | | A, B, C, D |
| 52 E-15 | Guide Rolls Systems Condition - Mechanical | Per PM Procedure P52456A P52459A P52474A P52475A | Mechanic | Mechanic | Each felt change | | | D |
| 52 E-16 | Guide Rolls Systems Condition - Electrical | Per PM Procedure PL52456 PL52459 PL52474 PL52475 | E/I | E/I | Each felt change | | | D |
| 52-E-36 | Wire Showers Posi-Purge Controls | Per PM Procedure P52628 | E/I | E/I | Once every two months | | | B |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE II

Process Stage: PRESSING AND DRYING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|--|--|---------------------------------|-----------------------------|----------------------------|---|----------------------|---------|
| 52 E-17 | Line Shaft Drive Belts Condition | Visual inspection of splice and width of belts and guide rollers are free turning and in good condition. | Lubricator/Inspector | Mechanic | Each felt change | No separation at splice. Belts no more than 1/4" less than original width | | D |
| 52 E-18 | Line Shaft Drive Belts Shifters Condition (Can sections and size press only.) | Hand operation of each belt shifter control to ensure operation. | Senior Operator/ #1 Operator | Mechanic | Once per week at felt wash | Belt shifter engages and will move belt in each direction | | D |
| 52 E-19 | Wet Felt Rolls Bearing Alignment | Check each roll moved during felt change with gauge block. | Mechanic | Mechanic | After each felt change | .000" off center | +/- .050" off center | D |
| 52 E-20 | Plain Press Roll Bearing Alignment | Check for uniform clearance at seal ring with feeler gauge. | Mechanic | Mechanic | After each felt change | >/.010" at all points around seal ring | | D |
| 52 E-21 | Suction Press Roll Vacuum Box Setting | Scale on tender-side end of roll. | Mechanic | Mechanic | Each roll installation | 23 degrees clockwise | | A, B, D |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE II

Process Stage: PRESSING AND DRYING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|----------------------|-----------------------------|-------------------------|---|-----------------|------------|
| 52 E-22 | Instrument Air Cleanliness | Check differential pressure on air filters with bypass valve closed and selector switch in auto. | Lubricator Inspector | Mechanic | Once per month | \leq 5 lb. pressure drop | | D |
| 52 E-23 | Continuous Dr. Blade Profile and Angle | -Use protractor block for angle. -Check each finger with gauge block P52070 | Mechanic | Mechanic | Each felt change | -21 degree angle -Uniform tension between each finger w/no variation | +/- 1/2 degrees | A, B, C, D |
| 52 E-24 | Yankee Hood Air Temperature Accuracy | Compare RTD output to controller reading. PL52427 PL52437 | E/I | E/I | Each scheduled shutdown | 0% difference in outputs | +/- 3% | C |
| 52 E-25 | Yankee Hood System Steam Trap Operation | Per PM Procedure P52547F P52548G | Mechanic | Mechanic | Every two months | | | B, C |
| 52 E-26 | Yankee Hood System Dampers Condition | Per PM Procedure P52547A P52548B P52547E P52548F | Mechanic | Mechanic | Each scheduled shutdown | | | B, C |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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2030284009

RL PROCESS EQUIPMENT STANDARDS

LINE II

Process Stage: PRESSING AND DRYING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|----------------------|-------------------------------|-------------------------|---|------------|---------------|
| 52 E-27 | Yankee Hood System Dampers Controls Condition | Per PM Procedure PL52426 | E/I | E/I | Each scheduled shutdown | | | B, C |
| 52 E-28 | Yankee Hood System Fans Bearing Temperature (Data Collection - TBD) | Raytech Heat Gun | Lubricator/Inspector | Mechanic | Once per week | | | A, B, C, D, E |
| 52 E-29 | Yankee Hood System Fans Bearing Vibration | CSI 2110 Meter | Shop Engineer | Mechanic | Once per month | The overall value \leq .4 ips on 88 KCPM span | | A, B, C, D, E |
| 52 E-30 | Yankee Bearing Lube System Flow Rate | Visual inspection of sight glass on each bearing for flow. | Senior Operator | Lubricator Inspector/Mechanic | Each shift | Intermittent flow through sight-glass. | | D |
| 52 E-31 | Machine Lube Systems Condition - Electrical | Per PM Procedure P52 (TBD) | E/I | E/I | | | | D |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE II

Process Stage: PRESSING AND DRYING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|----------------------------------|---|------------|-----------------------------|--|---|------------|---------|
| 52 E-32 | Yankee Dryer Surface Conditions | Per PM Procedure P52034A | Mechanic | Mechanic | Each scheduled shutdown | | | A, D |
| 52 E-33 | Machine Drives Motor Condition | Per PM Procedure P52052 P52053 P52056A P52061, P52315A | E/I | E/I | Each scheduled shutdown | | | D |
| 52 E-34 | Can Dryer Steam Traps Operation | Per PM Procedure P52035C | Mechanic | Mechanic | Every two months | | | B, C |
| 52 E-35 | Can Dryer Stretch Roll Operation | Stroke cylinder to ensure full travel. PL52469 PL52470 | Mechanic | Mechanic | Each time felt is slacked off, at the same time felt is slacked off. | 100% full stroke or whenever felt is tight. | | D |
| | | | | | | | | |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

2030284011

RL PROCESS EQUIPMENT STANDARDS

LINE II

Process Stage: SIZE PREP AND APPLICATION

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|---|-------------|-----------------------------|--|--|------------|---------|
| 52 E-51 | Prep Room Badger Meters Accuracy | Per PM procedure: PL52401C, PL52401B, PL52695, PL52696, PL52697, PL52698 | E/I | E/I | Once every two months | | | B |
| 52 E-52 | Size Transfer Recirculation Valve Condition | Visual inspection of internal condition. PL52404 | Mechanic | Mechanic | Each time Lines are high pressure cleaned. | Free of any build-up or obstructions in each port. | | D |
| 52 E-53 | Size Supply Pumps Capacity | Check RPM gauge on panel during normal operations. | #1 Operator | Mechanic | Once per day | ≤ 450 RPMs | | B, D |
| 52 E-54 | Size Return Pumps Capacity | Check RPM gauge on panel during normal operations. | #1 Operator | Mechanic | Once per day | ≤ 500 RPMs | | B, D |
| 52 E-55 | Size Press Dr. Blade Condition | Check to ensure front side and back side engage uniformly (come down together). | #1 Operator | Mechanic | Once per month | | | D |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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2030284012

RL PROCESS EQUIPMENT STANDARDS

LINE II

Process Stage: SIZE PREP AND APPLICATION

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|-------------|-----------------------------|----------------------|--|------------|------------|
| 52 E-56 | Soft Size Press Roll Surface Condition | TBD | | | | | | A, B, D |
| 52 E-57 | Size Press Roll Loading System Condition | Check to ensure front side and back side engage uniformly. | #1 Operator | E/I | Each felt wash | | | A, B, C, D |
| 52 E-58 | Speed Differential Between Size Press Rolls | Hand held tachometer measuring surface speed on each roll. | E/I | E/I | Once per month | Hard roll running faster than soft roll. | 1-3% | A, B, D |
| | | | | | | | | |
| | | | | | | | | |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

2030284013

RL PROCESS EQUIPMENT STANDARDS

LINE II

Process Stage: DRYING AND CUTTING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|---|----------------------|-------------------------------|--------------------------|---|--------------------|---------|
| 52 E-71 | Tunnel Dryer Drive Motor Amps | Check the amp gauge on the #1 Operator's panel. | #1 Operator | Lubricator Inspector/Mechanic | Once per shift | ≤ 65 amps at normal operating conditions. | | D |
| 52 E-72 | Tunnel Dryer Systems Fans Bearing Temperature | Raytech heat gun. | Lubricator Inspector | Mechanic | Once per week | | 80 - 180 degrees F | D |
| 52 E-73 | Tunnel Dryer Supply Fans Bearings Vibration | CSI 2110 meter | Shop Engineer | Mechanic | Once every two months | The overall value is $\leq .4$ ips | | D |
| 52 E-74 | Tunnel Dryer Exhaust Fans Bearings Vibration | CSI 2110 meter | Shop Engineer | Mechanic | Once per month | The overall value is $\leq .4$ ips | | D |
| 52 E-75 | Tunnel Dryer Chain Tension | Visual inspection of chain and sprockets. | #2 Operator | Mechanic | Once per day at feltwash | Chain in contact with idler sprockets with no sag, clearance entering dryer | | D |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE II

Process Stage: DRYING AND CUTTING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|----------------------|-----------------------------|-------------------------|----------------------|------------|---------|
| 52 E-76 | Tunnel Dryer Chain Condition | Per PM Procedure P52300B | Mechanic | Mechanic | Each scheduled shutdown | | | D |
| 52 E-77 | Tunnel Dryer Lube System Operation | Per PM Procedure P52300A | Lubricator Inspector | Lubricator Inspector | Once per day (M-F) | | | D |
| 52 E-78 | Transfer Conveyors Bearing Condition | Check to ensure all rolls are turning. No roughness present in bearings. | Lubricator Inspector | Mechanic | Once per month | | | C, D |
| 52 E-79 | Incline Transfer Conveyors Belt Condition | TBD | | | | | | C, D |
| | | | | | | | | |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

2030284015

RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: REFINING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|--|---|-----------------|-----------------------------|---|--|------------|------------------|
| 82 E-1 | Tickler Refiner Supply Pump Condition | Output on drive with supply pressure and flow to stuff box on standard. | Senior Operator | Mechanic | Once every two months | <= 80% | | A, B, C, D |
| 82 E-2 | Tickler Refiner Plate Installation - Clearance | Measured with ruler after plates have run in and have stopped. | E/I | E/I | Each plate change | | 1/8 - 1/4" | D |
| 82 E-3 | Tickler Refiner Pressure Gauge Accuracy | Visual inspection for glycerin level and return to zero when refiner is down. | E/I | E/I | Each plate change. | | | A, B, C |
| 82 E-4 | Tickler Refiner Plate Placement/Installation of Plates | Plate installed correctly for: B/C - Even # to Motor End S/W - Odd # to Motor End | Mechanic | Mechanic | Each plate change | B/C - Durametal 243-0163 (801-802) S/W - Durametal ; 243-0111 (007-008) | | A, B, C, D, E |
| 82 E-5 | Tickler Refiner Packing Type | Packing gland packed per Manufacturer Equipment Instructions. | Mechanic | Mechanic | Check packing each plate change Repack if gland pulled up within 1/4" of stuffing box. | B/C - Packing - 243-0201 Lantern Ring - 243-0008 S/W - Packing - 243-0113 Lantern Ring - 243-0115 | | D, E |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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2030284016

RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: REFINING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|--------------------------------|---|------------------|-----------------------------|-------------------------|---|------------|------------|
| 82 E-6 | Tickler Refiner Plate Wear | TBD | | | | | | A, B, C, D |
| 82 E-7 | F.C.V. to Stuff Box Condition | Pull and visually inspect valve internal condition PL82328 | E/I/ Mechanic | E/I | Each scheduled shutdown | Ceramic interior free of cracks, chipped places or fragments. | | A, B, C |
| 82 E-37 | Tickler Refiner Seal Condition | Visual inspection for cuts, splits, tears and nicks. | Mechanic | Mechanic | Each plate change | B/C Seal - 243-0114 S/W Seal - 243-0017 | | D, E |
| | | | | | | | | |
| | | | | | | | | |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

2030284017

RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: SHEET FORMATION

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|---|-----------------|--------------------------------|----------------------------------|--|------------|------------|
| 82 E-8 | Large Gate Valve (> 3") Operational Condition (SBW/ RBW Tanks, Inlet and Outlet Valves on Fan Pumps, M.C. Discharge and Refiner Supply) | Turn valve open or close to ensure operational condition and return valve position to original setting. | Senior Operator | Lubricator/ Inspector Mechanic | Each Process Clean-up/ Bleaching | Valves are able to turn without any major exertion being applied using 12" valve wrench. | | D, E |
| 82 E-9 | Couch Roll External Shower Nozzle Condition | Visually inspect shower nozzles for proper operation and spray pattern. | Senior Operator | Mechanic | Each wire change (Quarterly) | Nozzles are free of plugs and will re-seat at 25 psi. | | A, B, C, D |
| 82 E-10 | Couch Roll Shell Condition | Visual inspection of shell holes. | Senior Operator | Senior Operator | Each time wire is removed | Holes in shell are open and clean after washing. | | A, B, C, D |
| 82 E-11 | Couch Roll Vacuum Box Setting | Scale on tender-side end of roll. | Mechanic | Mechanic | Each roll installation | 11degrees | | B |
| 82 E-12 | Wire Return Rolls Dr. Blade Condition | Hand operation of Dr. Blade operator to ensure blade is against roll evenly across length of roll. | Senior Operator | Mechanic | Each time wire removed | Even wear on Dr. Blade across roll. Roll can be turned by hand with blade engaged. | | A |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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2030284018

RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: SHEET FORMATION

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|--|--|------------|-----------------------------|-----------------------|----------------------|------------|------------|
| 82 E-13 | Forming Board Condition | TBD | | | | | | A, B, C, D |
| 82 E-14 | Wire Return/Breast Roll Surface Condition | TBD | | | | | | A, B, C, D |
| 82 E-15 | Guide Rolls Systems Condition - Mechanical | Per PM Procedure P82456A P82459A P82474A P82475A | Mechanic | Mechanic | Each felt change | | | D |
| 82 E-16 | Guide Rolls Systems Condition - Electrical | Per PM Procedure PL82456 PL82459 PL82474 PL82475 | E/I | E/I | Each felt change | | | D |
| 82 E-36 | Wire Showers Posi-Purge Controls | Per PM Procedure P82026 | E/I | E/I | Once every two months | | | B |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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 Philip Morris v. ABC

2030284019

RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: PRESSING AND DRYING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|--|--|---------------------------------|-----------------------------|----------------------------|---|----------------------|---------|
| 82 E-17 | Line Shaft Drive Belts Condition | Visual inspection of splice and width of belts and guide rollers are free turning and in good condition. | Lubricator/Inspector | Mechanic | Each felt change | No separation at splice. Belts no more than 1/4" less than original width | | D |
| 82 E-18 | Line Shaft Drive Belts Shifters Condition (Can sections and size press only.) | Hand operation of each belt shifter control to ensure operation. | Senior Operator/ #1 Operator | Mechanic | Once per week at felt wash | Belt shifter engages and will move belt in each direction | | D |
| 82 E-19 | Wet Felt Rolls Bearing Alignment | Check each roll moved during felt change with gauge block. | Mechanic | Mechanic | After each felt change | .000" off center | +/- .050" off center | D |
| 82 E-20 | Plain Press Roll Bearing Alignment | Check for uniform clearance at seal ring with feeler gauge. | Mechanic | Mechanic | After each felt change | >/.010" at all points around seal ring | | D |
| 82 E-21 | Suction Press Roll Vacuum Box Setting | Scale on tender-side end of roll. | Mechanic | Mechanic | Each roll installation | 6 degrees clockwise | | A, B, D |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

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2030284020

RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: PRESSING AND DRYING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|----------------------|-----------------------------|-------------------------|---|-------------------|------------|
| 82 E-22 | Instrument Air Cleanliness | Check differential pressure on air filters with bypass valve closed and selector switch in auto. | Lubricator Inspector | Mechanic | Once per month | ≤ 5 lb. pressure drop | | D |
| 82 E-23 | Continuous Dr. Blade Profile and Angle | -Use protractor block for angle. -Check each finger with gauge block P82092 | Mechanic | Mechanic | Each felt change | -17 degree angle -Uniform tension between each finger w/no variation | $\pm 1/2$ degrees | A, B, C, D |
| 82 E-24 | Yankee Hood Air Temperature Accuracy | Compare RTD output to controller reading. PL82427 PL82437 | E/I | E/I | Each scheduled shutdown | 0% difference in outputs | $\pm 3\%$ | C |
| 82 E-25 | Yankee Hood System Steam Trap Operation | Per PM Procedure P82547F P82548F | Mechanic | Mechanic | Every two months | | | B, C |
| 82 E-26 | Yankee Hood System Dampers Condition | Per PM Procedure P82547C P82548C P82547E P82548E | Mechanic | Mechanic | Each scheduled shutdown | | | B, C |

Impacts:

- A. Critical product characteristic is changed.
- B. Controllable parameter goes out of control.
- C. Process operating standard goes off standard.
- D. Unscheduled downtime occurs due to equipment failure.
- E. An unsafe condition can occur.

Confidential
 Philip Morris v. ABC

2030284021

RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: PRESSING AND DRYING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|----------------------|-------------------------------|-------------------------|---|------------|---------------|
| 82 E-27 | Yankee Hood System Dampers Controls Condition | Per PM Procedure PL82426 | E/I | E/I | Each scheduled shutdown | | | B, C |
| 82 E-28 | Yankee Hood System Fans Bearing Temperature (Data Collection - TBD) | Raytech Heat Gun | Lubricator/Inspector | Mechanic | Once per week | | | A, B, C, D, E |
| 82 E-29 | Yankee Hood System Fans Bearing Vibration | CSI 2110 Meter | Shop Engineer | Mechanic | Once per month | The overall value $\leq .4$ ips on 88 KCPM span | | A, B, C, D, E |
| 82 E-30 | Yankee Bearing Lube System Flow Rate | Visual inspection of sight glass on each bearing for flow. | Senior Operator | Lubricator Inspector/Mechanic | Each shift | Intermittent flow through sight-glass. | | D |
| 82 E-31 | Machine Lube Systems Condition - Electrical | Per PM Procedure P82 (TBD) | E/I | E/I | | | | D |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: PRESSING AND DRYING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|----------------------------------|---|------------|-----------------------------|--|---|------------|---------|
| 82 E-32 | Yankee Dryer Surface Conditions | Per PM Procedure P82042A | Mechanic | Mechanic | Each scheduled shutdown | | | A, D |
| 82 E-33 | Machine Drives Motor Condition | Per PM Procedure P82074 P82076 P82081 P82084A, P82400C | E/I | E/I | Each scheduled shutdown | | | D |
| 82 E-34 | Can Dryer Steam Traps Operation | Per PM Procedure P82045B | Mechanic | Mechanic | Every two months | | | B, C |
| 82 E-35 | Can Dryer Stretch Roll Operation | Stroke cylinder to ensure full travel. PL82469 PL82470 | Mechanic | Mechanic | Each time felt is slacked off, at the same time felt is slacked off. | 100% full stroke of whenever felt is tight. | " | D |
| | | | | | | | | |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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2030284023

RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: SIZE PREP AND APPLICATION

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|---|-------------|-----------------------------|--|--|------------|---------|
| 82 E-51 | Prep Room Badger Meters Accuracy | Per PM procedure: PL82401A, PL82401B, PL82401C, PL82401D, PL82401E | E/I | E/I | Once every two months | | | B |
| 82 E-52 | Flavor Kitchen Badger Meter Accuracy | Per PM procedure: P52405 | E/I | E/I | Once every two months | | | B |
| 82 E-53 | Size Transfer Recirculation Valve Condition | Visual inspection of internal condition. PL82404 | Mechanic | Mechanic | Each time Lines are high pressure cleaned. | Free of any build-up or obstructions in each port. | | D |
| 82 E-54 | Size Supply Pumps Capacity | Check % speed gauge on panel during normal operations. | #1 Operator | Mechanic | Once per day | <= 60% | | B, D |
| 82 E-55 | Size Return Pumps Capacity | Check level in size return pans with pump at 100%. | #1 Operator | Mechanic | Once per day | No level in pan | | B, D |
| 82 E-56 | Size Press Dr. Blade Condition | Check to ensure front side and back side engage uniformly (come down together). | #1 Operator | Mechanic | Once per month | | | D |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: SIZE PREP AND APPLICATION

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|-------------|-----------------------------|----------------------|--|------------|------------|
| 82 E-57 | Soft Size Press Roll Surface Condition | TBD | #1 Operator | E/I | Each felt wash | | | A, B, D |
| 82 E-58 | Size Press Roll Loading System Condition | Check to ensure front side and back side engage uniformly. | #1 Operator | E/I | Each felt wash | | | A, B, C, D |
| 82 E-59 | Speed Differential Between Size Press Rolls | Hand held tachometer measuring surface speed on each roll. | E/I | E/I | Once per month | Hard roll running faster than soft roll. | 1-3% | A, B, D |
| | | | | | | | | |
| | | | | | | | | |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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2030284025

RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: DRYING AND CUTTING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|---|----------------------|-----------------------------------|--------------------------|--|--------------------|---------|
| 82 E-71 | Tunnel Dryer Drive Motor Amps | Check the amp gauge on the #1 Operator's panel. | #1 Operator | Lubricator Inspector/ Mechanic | Once per shift | </= 50 amps at normal operating conditions. | | D |
| 82 E-72 | Tunnel Dryer Systems Fans Bearing Temperature | Raytech heat gun | Lubricator Inspector | Mechanic | Once per week | | 90 - 200 degrees F | D |
| 82 E-73 | Tunnel Dryer Supply Fans Bearings Vibration | CSI 2110 meter | Shop Engineer | Mechanic | Once every two months | The overall value is </= .4 ips | | D |
| 82 E-74 | Tunnel Dryer Exhaust Fans Bearings Vibration | CSI 2110 meter | Shop Engineer | Mechanic | Once per month | The overall value is </= .4 ips | | D |
| 82 E-75 | Tunnel Dryer/Rotary Dryer Steam Traps Operation | Per PM Procedure P82400E P82438 | Mechanic | Mechanic | Once every two months. | | | B, C |
| 82 E-76 | Tunnel Dryer Chain Tension | Visual inspection of chain and sprockets. | #2 Operator | #2 Operator | Once per day at feltwash | Chain contacts track approx. halfway on visual portion of track at D.E. of tunnel. | | D |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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2030284026

RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: DRYING AND CUTTING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|--|----------------------|-----------------------------|-------------------------|----------------------|------------|---------|
| 82 E-77 | Tunnel Dryer Chain Condition | Per PM Procedure P82400 | Mechanic | Mechanic | Each scheduled shutdown | | | D |
| 82 E-78 | Tunnel Dryer Lube System Operation | Per PM Procedure P82400D | Lubricator Inspector | Lubricator Inspector | Once per day (M-F) | | | D |
| 82 E-79 | Transfer Conveyors Bearing Condition | Check to ensure all rolls are turning. No roughness present in bearings. | Lubricator Inspector | Mechanic | Once per month | | | C, D |
| 82 E-80 | Incline Transfer Conveyors Belt Condition | TBD | | | | | | C, D |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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2030284027

RL PROCESS EQUIPMENT STANDARDS

LINE III

Process Stage: PACKING

Effective Date: 6/3/94

| Standard Number | Standard | How Measured | Who Checks | Who Takes Corrective Action | Monitoring Frequency | Standard Value/Units | P.V. Range | Impacts |
|-----------------|---|---|----------------------|-----------------------------|----------------------|--|--------------------------|---------|
| 32 E-1 | Packer Conveyor Scale Accuracy | Place a set of standard weights on each scale. | Packing Attendant | E/I | Once per day | -Domestic - 1308 lbs. -Export - 400 lbs. | +/- 4 lbs. +/- 4 lbs. | B |
| 32 E-2 | Transfer Belt Conveyors Bearing Condition | Check to ensure all rolls are turning. No roughness present in bearings. | Lubricator Inspector | Mechanic | Once per month | | | D |
| 32 E-3 | Incline Transfer Conveyors Belt Condition | TBD | | | | | | D |
| 32 E-4 | Strapper Heater Temperature Setting | Check dial setting. P32048A P32055A | Mechanic | Mechanic | Once per week | 4 | | D |
| 32 E-5 | Strapper Heater Timer Setting | Check dial setting on each timer. P32048A P32055A | E/I | E/I | Once per week | -T1 - 2 1/2 -T2 - 4 | 2 1/2 - 3 4 1/2 - 4 | D |
| 32 E-6 | Strapper Heat Knife Cleanliness | Visual inspection of knife. P32048 P32055 | Mechanic | Mechanic | Once per week. | Knife free of build-up or trash. | | D |
| 32 E-7 | Packer Hydraulic Pump System Condition (Pump Room Only) | Visual inspection for leaks, proper oil level and filter cleanliness during normal operation. | Lubricator Inspector | Lubricator Inspector | Once per day (M-F) | -Oil level is \geq 12" below top of tank -Oil temperature is \leq 110 degrees F | | D |

Impacts: A. Critical product characteristic is changed.
 B. Controllable parameter goes out of control.
 C. Process operating standard goes off standard.
 D. Unscheduled downtime occurs due to equipment failure.
 E. An unsafe condition can occur.

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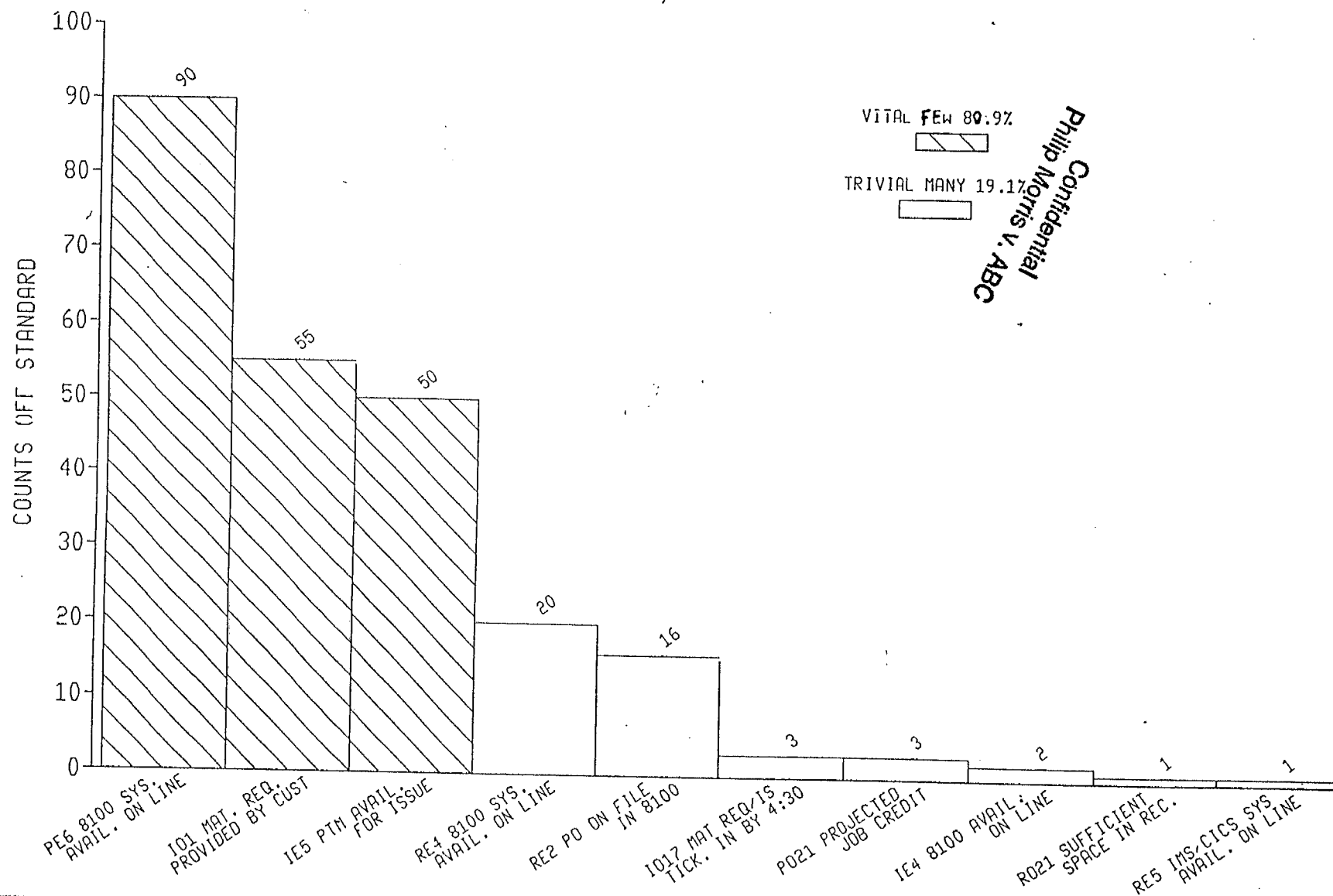
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DEPARTMENT PARETOS

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PARETO OF STOCKROOM OFF STANDARD LOGS
REASONS FOR OFF STANDARDS
MAY, 1994

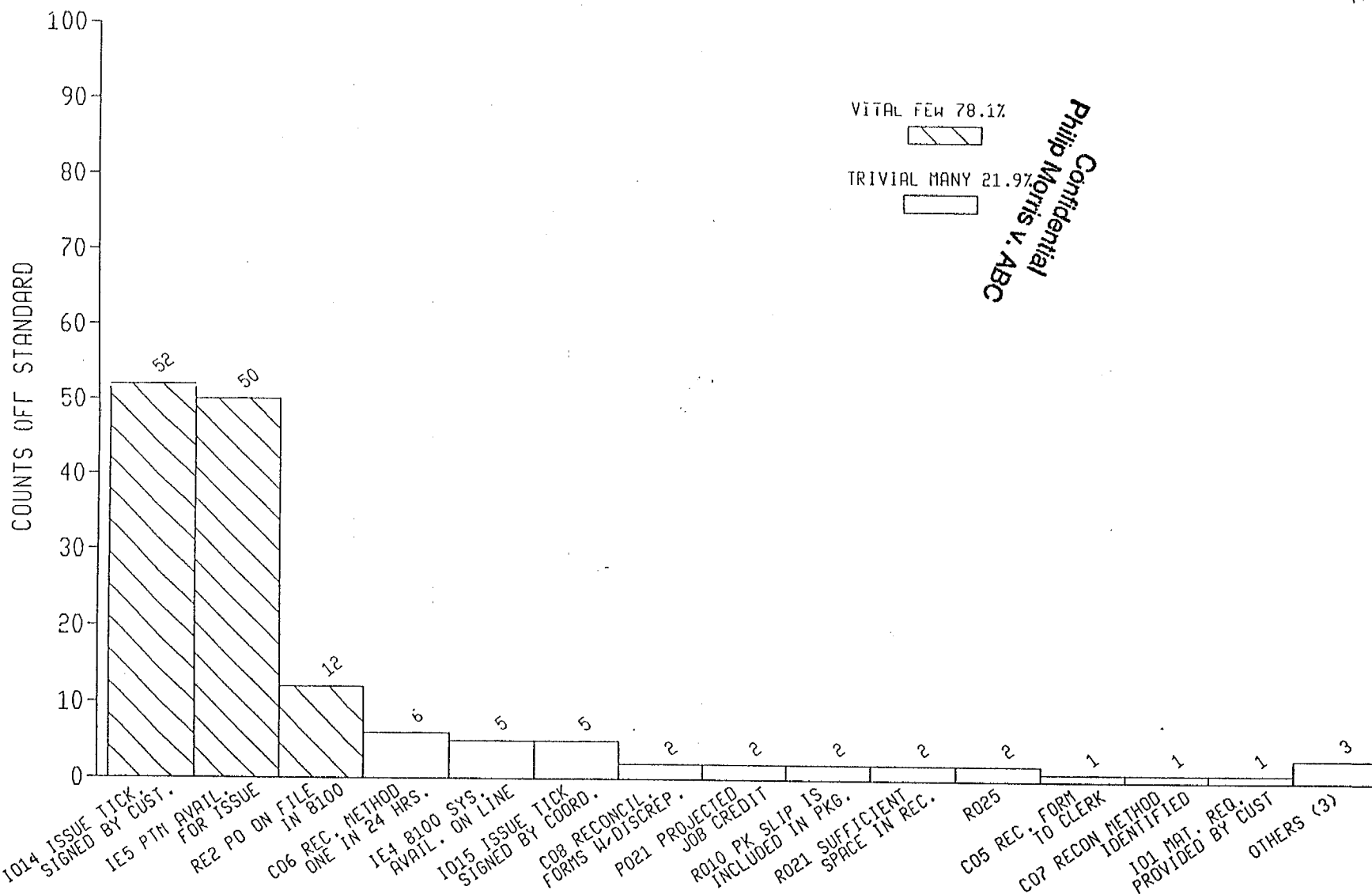


MS STOCK MAY 94

PARETO OF STOCKROOM OFF STANDARD LOGS

REASONS FOR OFF STANDARDS

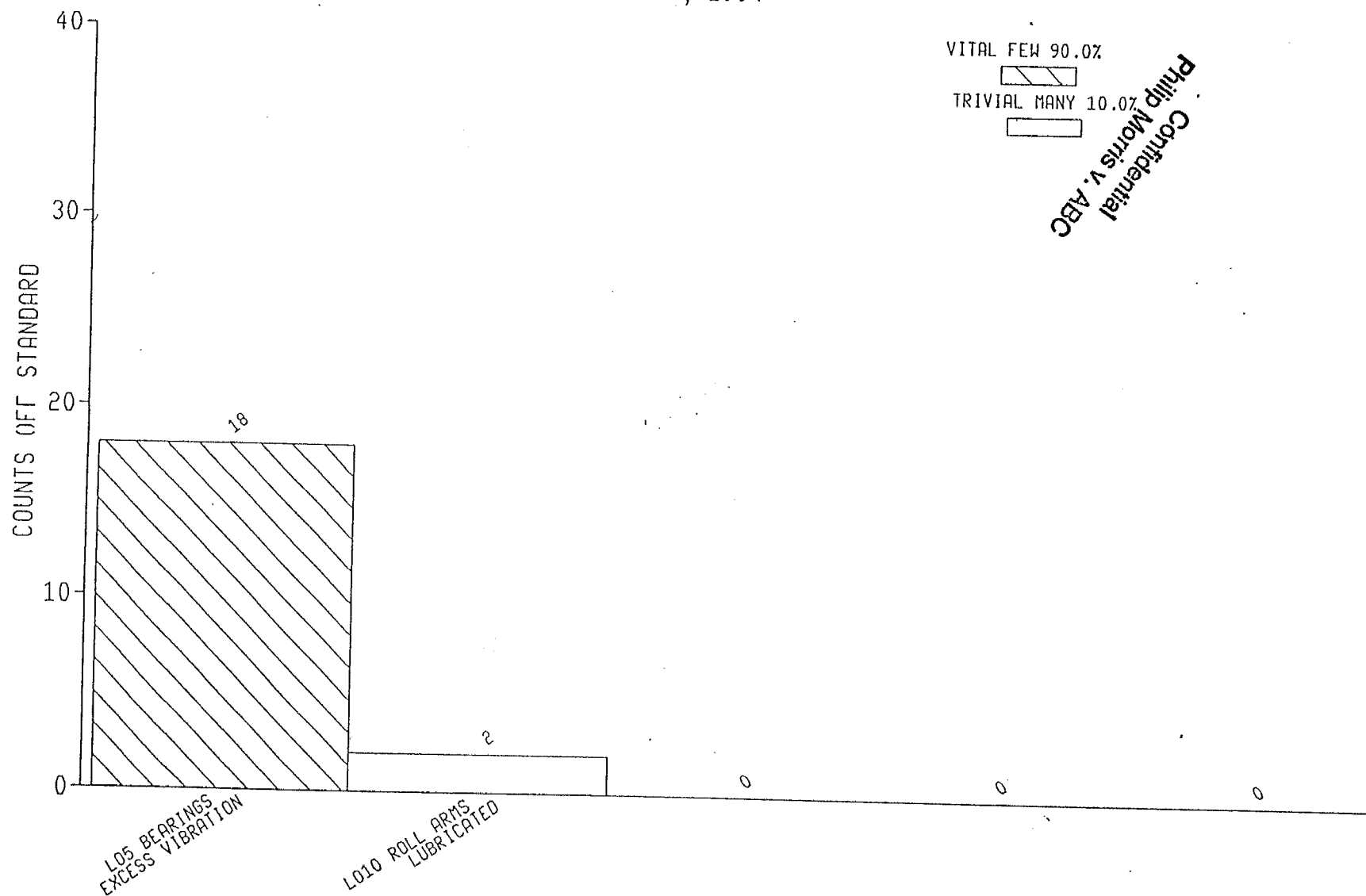
APRIL, 1994



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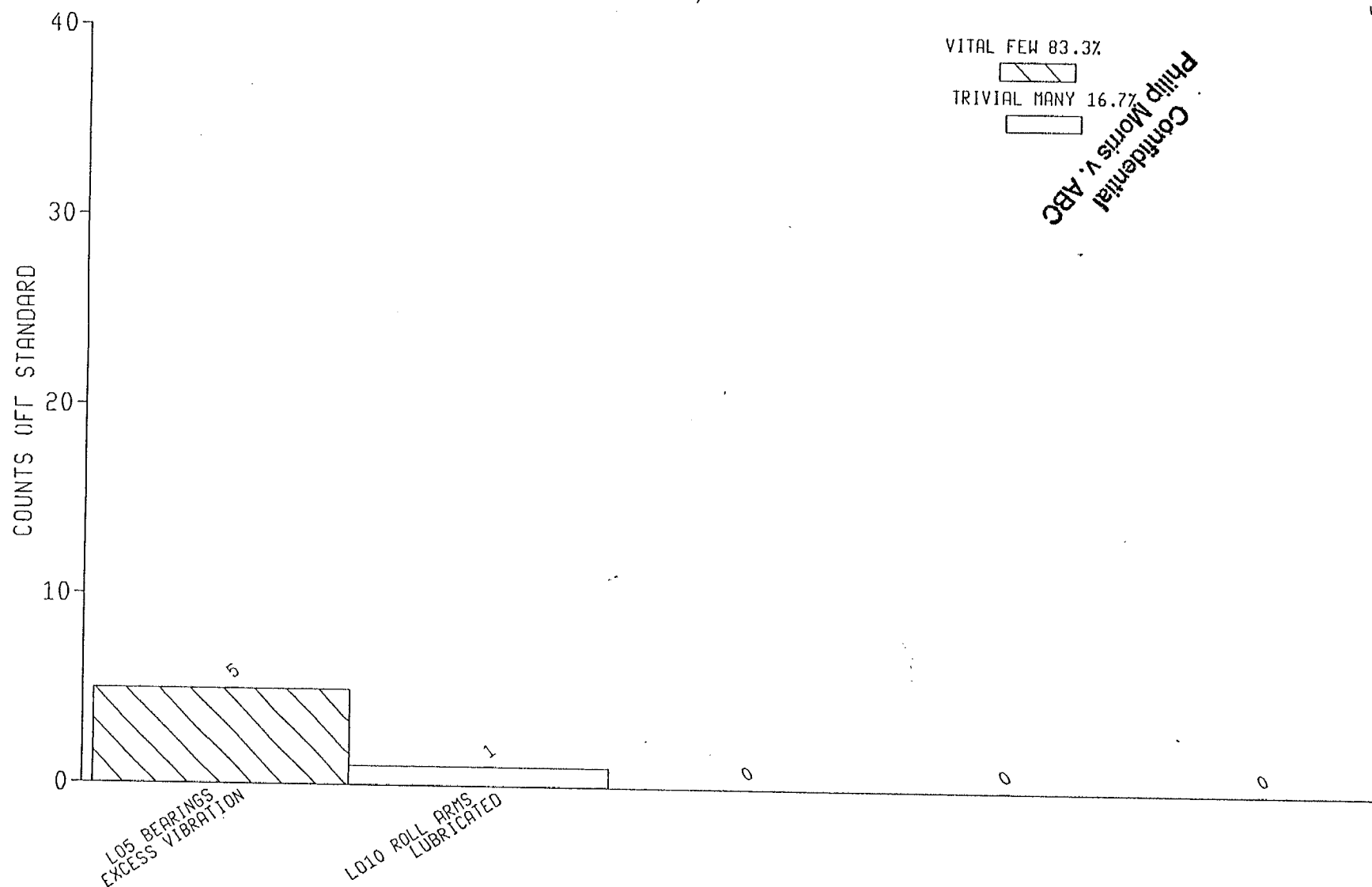
PARETO OF STANDARDS PERFORMANCE
MAINTENANCE SUPPORT PROCESSES
MAY, 1994



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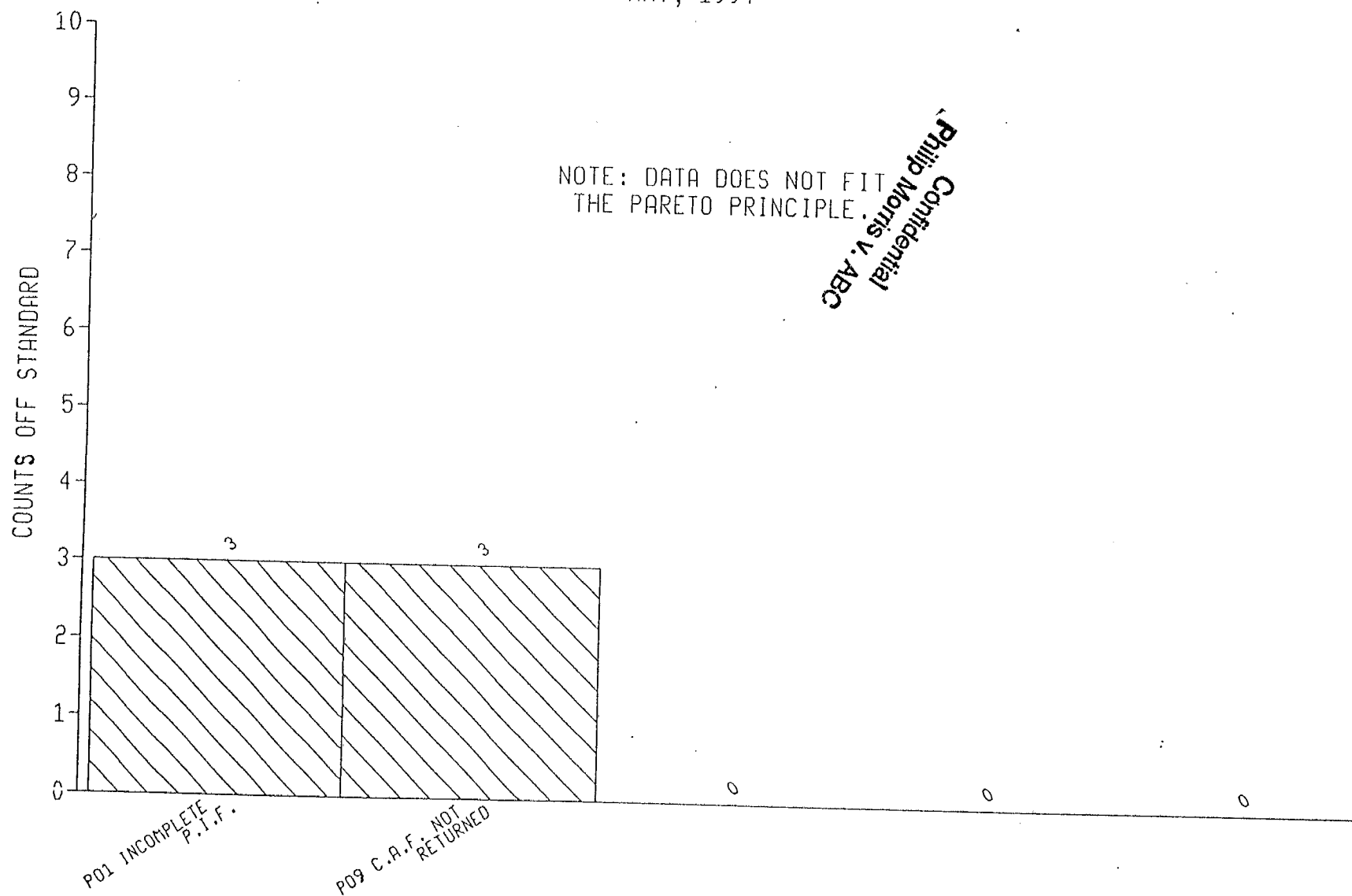
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MAINTENANCE SUPPORT PROCESSES
APRIL, 1994



MNT SUP APR 94

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PARETO OF STANDARD PERFORMANCE
PLANT ENGINEERING
MAY, 1994



PLT ENG MAY 94

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